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LCD TV

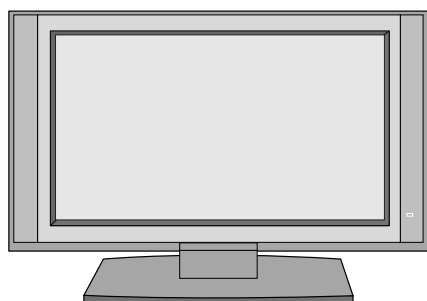
SERVICE MANUAL

CHASSIS : LA61B

MODEL : 47LB1DA-UB

CAUTION

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by \triangle in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer** should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between $1M\Omega$ and $5.2M\Omega$.

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.

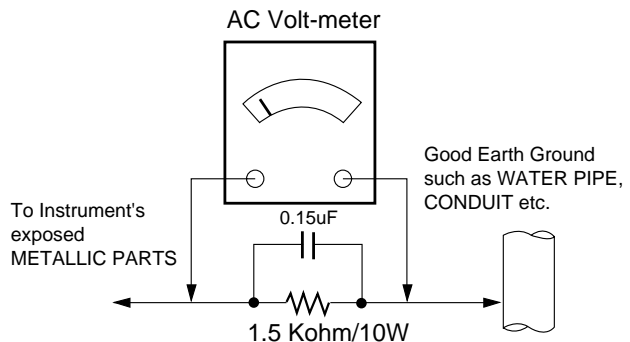
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
 - a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
 - b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
 - c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".

3. Do not spray chemicals on or near this receiver or any of its assemblies.

4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)

CAUTION: This is a flammable mixture.

Unless specified otherwise in this service manual, lubrication of contacts is not required.

5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.

Always remove the test receiver ground lead last.

8. Use with this receiver only the test fixtures specified in this service manual.

CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices*. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the

unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500 °F to 600 °F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
 - a. Allow the soldering iron tip to reach normal temperature. (500 °F to 600 °F)
 - b. Heat the component lead until the solder melts.
 - c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
 - a. Allow the soldering iron tip to reach a normal temperature (500 °F to 600 °F)
 - b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
 - c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
CAUTION: Work quickly to avoid overheating the circuit board printed foil.
- d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush.
(It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor

Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device

Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor

Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.

CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife.
Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.
Carefully crimp and solder the connections.

CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

SPECIFICATION

NOTE : Specifications and others are subject to change without notice for improvement.

1. Specification

Each part is tested as below without special appointment.

A. Temperature : $20 \pm 5^{\circ}\text{C}$

B. Relative Humidity : $65 \pm 10\%$

C. Power Voltage : Standard input voltage (100~240V @ 50/60Hz)

* Standard Voltage of each product is marked by models

D. Specification and performance of each parts are followed each drawing and specification by part number in accordance with BOM.

E. The receiver must be operated for about 20 minutes prior to the adjustment.

2. Test method

F. Performance : LGE TV test method followed

G. Demanded other specification

Safety : UL, CSA, IEC specification

EMC : FCC, ICES, IEC specification

3. General Spec

No	Item	Specification	Remark
1.	Receiving System	1) ATSC/64 & 256 QAM/ NTSC-M	
2.	Available Channel	1) VHF : 02~13 2) UHF : 14~69 3) DTV : 02~69 4) CATV : 01~135 5) CADTV : 01~135	
3.	Input Voltage	1) AC 100 ~ 260V 50/60Hz	120V, 60Hz
4.	Market	NORTH AMERICA	
5.	Screen Size	47 inch Wide	47"
6.	Aspect Ratio	16:9	
7.	Tuning System	FS	
8.	Module	470WU1-SL01	1080p Full-HD
9.	Operating Environment	1) Temp : 0 ~ 40 deg 2) Humidity : ~ 80 %	
10.	Storage Environment	1)Temp : -20 ~ 60 deg 2) Humidity : 0 ~ 90 %	

4. Chroma (SET With 45% Filter)

No	Item			Min	Typ	Max	Unit	Remark
1	White peak brightness (Center 1-point / Full White Pattern)			450	550		cd/m ²	47LB1DA-UB
2	White average brightness				cd/m ²			N/A
3	Brightness uniformity			80			%	Full white
4	Color coordinate	RED	X	Typ. -0.03	0.638		Typ. +0.03	
			Y		0.340			
		GREEN	X		0.279			
			Y		0.611			
		BLUE	X		0.146			
			Y		0.062			
		WHITE	X		0.272			
			Y		0.278			
5	Color coordinate uniformity							N/A
6	Contrast ratio			600:1	800:1			W/O AI
				1200:1	1600:1			With AI
7	Color Temperature	Standard Cool Warm		8,300 11,000 5,500	9,300 12,000 6,500	10,300 13,000 7,500		<Test Condition> HDMI Input, 85% Full white pattern
8	Color Distortion, DG			10.0	%			
9	Color Distortion, DP			10.0	deg			
10	Color S/N, AM/FM			43.0			dB	
11	Color Killer Sensitivity			-80			dBm	

* Peak & average Brightness & Contrast measure standard specification

White Peak brightness measure specification

- 1) In non-impressed condition , measure peak brightness displayable as much as possible LCD module.
- 2) Measuring instrument : CA-100 or a sort of Color Analyzer.
- 3) Pattern Generator : VG-828 or a sort of digital pattern generator (displayable Full White & 1/25 White Window pattern)
- 4) Measure condition
 - Test pattern : in center, 1/5(H) * 1/5(V) of Window Pattern (white pattern in non-impressed condition)
 - SET condition : Contrast & Brightness Level 100%
 - Environment condition : Dark room in the non outside light
- 5) Measurement
 - Impress test pattern signal in 1/5(H) * 1/5(V) White Window of 100%(255Gray Level)
 - Measure 3 times brightness of central white window, and mark peak brightness in max brightness degree
 - Measure the same condition in video signal /RGB signal.

* Average Brightness measure specification

- 1) Impress 100%(255Gray Level) full white pattern at the same peak brightness measurement.
- 2) Measure average brightness in 9 points.

* Contrast ratio measure specification

- 1) Test display signal : 30*30 dots White Window signal & all Black Raster signal
- 2) Dark room measure condition : Using touch type Color analyzer CA-100 Dark room in the non outside light
- 3) Bright room measure condition : In bright room of 150Lx illumination in the panel surface, locate a source of light on the above 45° of the panel surface.
- 4) Measure method
 - In standard test condition, impress 30*30 dots White Window Pattern signal .
 - Measure center peak brightness degree Lw of white window
 - Impress black Raster signal as contrast ratio measurement signal.
 - Measure black brightness degree Lb of PDP central
 - Calculate the following numerical formula .
 - $Contrast\ ratio = Lw / Lb$

If it does not use Prior measurement, use generally simple test measurement.

The Correct measure specification is followed by IEC61988-2/CD, JAPAN EIAJ-2710

5. Component Video Input (Y, PB, PR)

No	Specification			Proposed
	Resolution	H-freq(kHz)	V-freq(Hz)	
1.	720*480	15.73	60	SDTV ,DVD 480I
2.	720*480	15.73	59.94	SDTV ,DVD 480I
3.	720*480	31.47	60	SDTV 480P
4.	720*480	31.47	59.94	SDTV 480P
5.	1280*720	45.00	60.00	HDTV 720P
6.	1280*720	44.96	59.94	HDTV 720P
7.	1920*1080	33.75	60.00	HDTV 1080I
8.	1920*1080	33.72	59.94	HDTV 1080I
9.	1920*1080	27	24	HDTV 1080P
10.	1920*1080	33.75	30	HDTV 1080P

6. RGB input (PC/DTV)

No	Specification				Proposed	
	Resolution	H-freq(kHz)	V-freq(Hz)	Pixel clock(MHz)		
	PC				DDC	
1.	640*350	31.468	70.09	25.17	EGA	O
2.	720*400	31.469	70.08	28.32	DOS	O
3.	640*480	31.469	59.94	25.17	VESA(VGA)	O
4.	640*480	37.861	72.80	31.50	VESA(VGA)	O
5.	640*480	37.500	75.00	31.50	VESA(VGA)	O
6.	800*600	35.156	56.25	36.00	VESA(SVGA)	O
7.	800*600	37.879	60.31	40.00	VESA(SVGA)	O
8.	800*600	48.077	72.18	50.00	VESA(SVGA)	O
9.	800*600	46.875	75.00	49.50	VESA(SVGA)	O
10.	1024*768	48.363	60.00	65.00	VESA(XGA)	O
11.	1024*768	56.476	70.06	75.00	VESA(XGA)	O
12.	1024*768	60.023	75.02	78.75	VESA(XGA)	O
13.	1280*768	47.776	59.870	79.5	CVT(WXGA)	X
		47.78	59.87	79.5		
14.	1360*768	47.720	59.799	84.750	CVT(WXGA)	O
		47.71	60.02	85.5		
	DTV					
15.	720*480	31.47	60		SDTV 480P	
16.	720*480	31.47	59.94		SDTV 480P	
17.	1280*720	45.00	60.00		HDTV 720P	
18.	1280*720	44.96	59.94		HDTV 720P	
19.	1920*1080	33.75	60.00		HDTV 1080I	
20.	1920*1080	33.72	59.94		HDTV 1080I	
21.	1920*1080	27	24		HDTV 1080P	
22.	1920*1080	33.75	30		HDTV 1080P	

7. HDMI Input (PC/DTV)

No	Specification				Proposed	
	Resolution	H-freq(kHz)	V-freq(Hz)	Pixel clock(MHz)		
	PC				DDC	
1.	640*480	31.469	59.94	25.17	VESA(VGA)	O
2.	640*480	37.861	72.80	31.50	VESA(VGA)	O
3.	640*480	37.500	75.00	31.50	VESA(VGA)	O
4.	800*600	35.156	56.25	36.00	VESA(SVGA)	O
5.	800*600	37.879	60.31	40.00	VESA(SVGA)	O
6.	800*600	48.077	72.18	50.00	VESA(SVGA)	O
7.	800*600	46.875	75.00	49.50	VESA(SVGA)	O
8.	1024*768	48.363	60.00	65.00	VESA(XGA)	O
9.	1024*768	56.476	70.06	75.00	VESA(XGA)	O
10.	1024*768	60.023	75.02	78.75	VESA(XGA)	O
11.	1280*768	47.776	59.870	79.5	CVT(WXGA)	X
		47.78	59.87	79.5		
12.	1360*768	47.720	59.799	84.750	CVT(WXGA)	O
		47.71	60.02	85.5		
	DTV					
13.	720*480	31.47	60		SDTV 480P	
14.	720*480	31.47	59.94		SDTV 480P	
15.	1280*720	45.00	60.00		HDTV 720P	
16.	1280*720	44.96	59.94		HDTV 720P	
17.	1920*1080	33.75	60.00		HDTV 1080I	
18.	1920*1080	33.72	59.94		HDTV 1080I	
19.	1920*1080	27	24		HDTV 1080P	
20.	1920*1080	33.75	30		HDTV 1080P	

8. Mechanism spec

No	Item		Content				Remark
1.	ProductDimension		Width	Length	Height	Unit	
		Before Packing	1280	315	828(719)	mm	
		After Packing	1386	411	966	mm	
2.	ProductWeight	Only SET	56.5			Kg	
		With BOX	62.7			Kg	
3.	Container Loading Quantity	Individual or Palletizing	20ft		40ft		
			Indi	Wooden	Indi	Wooden	
			44	44	90	88	
4.	Stand Assy	Type	Attached (detachable)				
		Size(W x D x H)	722	315	231	Mm	
		Tilt Degree	-				
		Tilt force	-				
		Swivel Degree	+30°(±1) / -30°(±1)				
		Swivel Force	2.0 ~ 2.3 kgf				
5.	Appearance	General	Refer to Standard of LG(55)G1-1020				

ADJUSTMENT INSTRUCTION

1. Application Object

These instructions are applied to all of the LCD TV, LA61B.

2. Notes

- (1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test equipment.
- (2) Adjustments must be done in the correct order.
- (3) The adjustments must be performed in the circumstance of $25\pm 5^{\circ}\text{C}$ of temperature and $65\pm 10\%$ of relative humidity if there is no specific designation.
- (4) The input voltage of the receiver must be kept 110V, 60Hz when adjusting.
- (5) The receiver must be operational for about 15 minutes prior to the adjustments.

- Perform preliminary operation after receiving 100% White Pattern (06CH).

(Or 3. White Pattern status of Ez-Adjust)

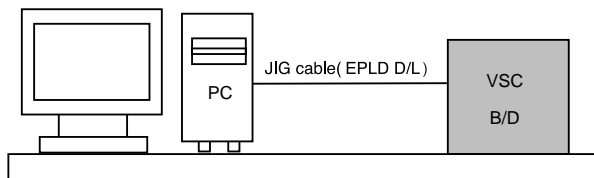
- White Pattern entry method

- A) Enter into Ez-Adjust by pressing the **POWER ON KEY** on the adjustment R/C.
- B) 100% FULL WHITE PATTERN appears if pressing the OK (■) key after selecting the 3.WHITE PATTERN with the CH + / - KEY.

* It is possible to HEAT RUN the set without a separate signal generator in this mode.

Caution : Care must be taken as afterimage phenomena may occur about the black level part of screen If leaving pause image turned on for more than 20 minutes (especially inner digital pattern (13 CH), Cross Hatch Pattern (09CH) with significant black/white contrast).

3. EPLD Download

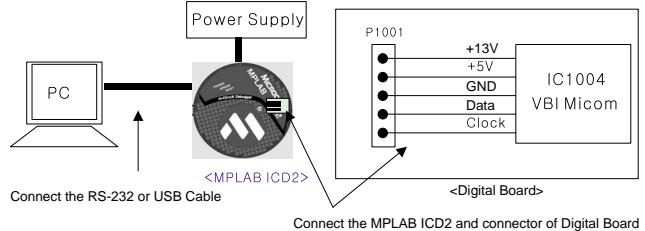


- (1) Test Equipment: PC, Jig for download
- (2) Connect the power of VSC B/D.
- (3) Execute download program (iMPACK) of PC.
- (4) After executing the hot key on the Programmer, click icon
- (5) End after confirming

4. Gemstar VBI Micom Download

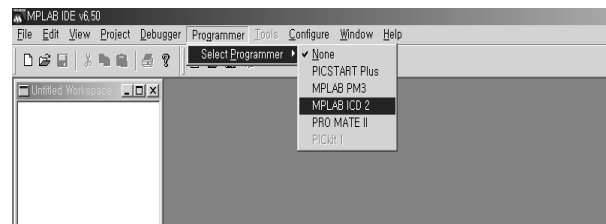
4-1. Preparation for Adjustment

- (1) As shown below, connect the MPLAB ICD2 equipment, PC and Digital Connector.
- (2) Turn on the MPLAB ICD2 POWER Supply.
- (3) After turn on the PC and MONITOR, select the 'MPLAB IDE' from the screen.

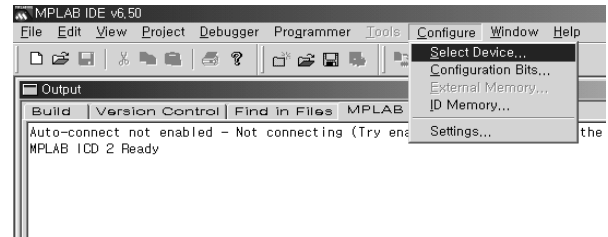


4-2. Adjustment Sequence

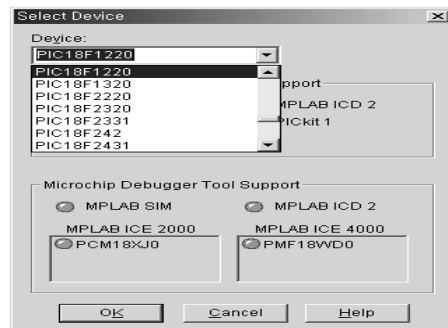
- (1) When the program is executed, select the MPLAB ICD2 from Programmer -> Select Programmer .



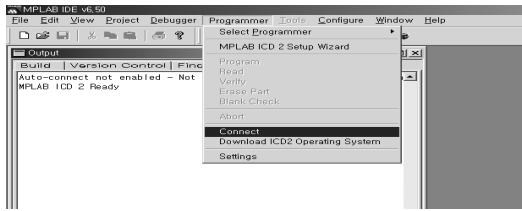
- (2) Select "Configure -> Select Device".



- (3) When the "Select Device" window appears, select the PIC18F1220 from "Device" and press OK.

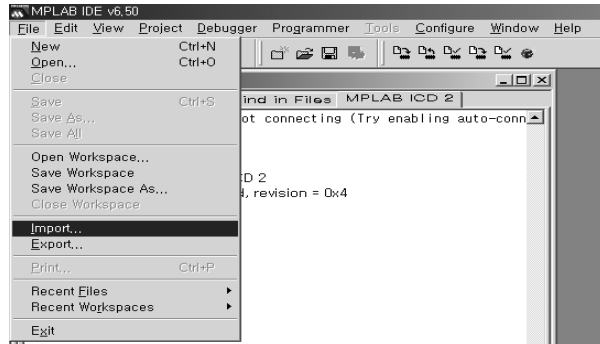


(4) Select "Programmer -> Connect".

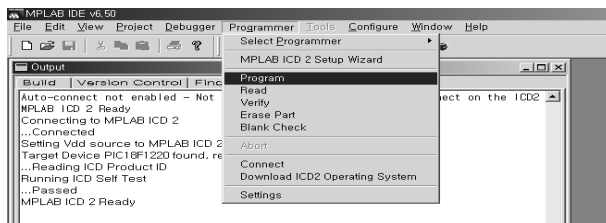


When connected with the Micom, the display message on the Output window appears as below.

(5) Select "File -> Import", select the Work HEX file and open.

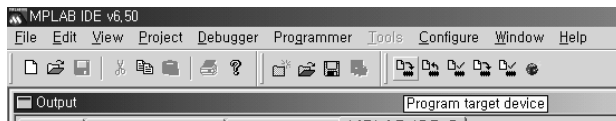


(6) Select "Programmer -> Program".



(7) Download is executed and about 5 seconds later, the "Programming succeeded" message is displayed on the Output window and the Download process is ended.

(8) The execution of process (6) is convenient when using the short-cut icon.



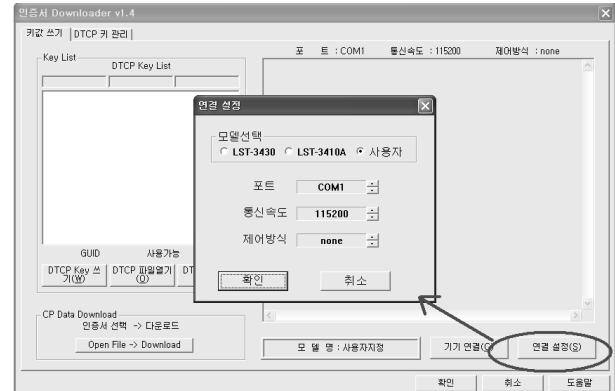
5. POD Certificate Download

5-1. Preparation for Adjustment

- (1) Connect the MEMORY JIG and PC.
- (2) Turn on the JIG MAIN POWER SWITCH.
- (3) After turn on the PC and MONITOR, execute the 'Certificate Downloader v1.4' from the screen.

5-2. Adjustment Sequence

- (1) After open the 'Certificate Downloader v1.4', enter Connection set and set the as same below. The port settings are determined by each PC's setup.

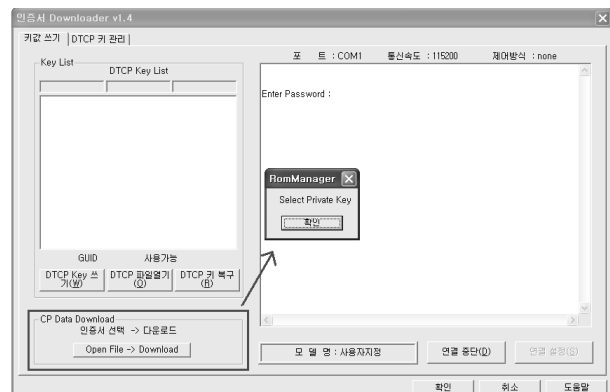


(2) Select 'Connection' and SET connected to RS-232C.

(3) After clicking "Enter", confirm that "Enter Password:" appears.



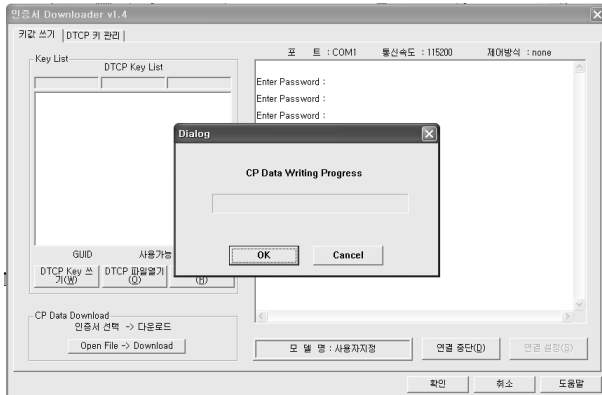
(4) Click the "OpenFile -> Download" button from CP Data Download, select the 'Private Key' appears and click ENTER.



- (5) After clicking ENTER, the 'opens Private key' window appears and select the Private key applied to the SET. The Private Key file name is on the Label of the Digital Board.



- (6) When the Dialog window appears, click OK and the write work will begin.



- (7) When completed, click 'CP Data Download: OK'

- * When 'CP Data Download: OK' does not appear, certificate has not Download correctly.
SET is rebooted and certificate Download work must be repeated.

6. Gemstar Operation Confirmation

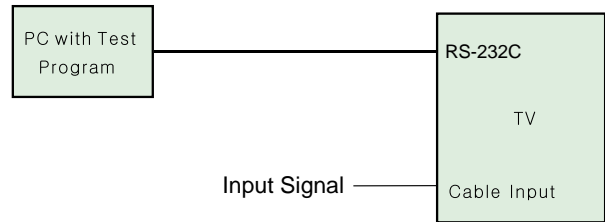
6-1. Required Test Equipment

- (1) PC with Factory Test Program
- (2) VBI Inserter (Norpak TES3) - Guide Data Discharge Equipment

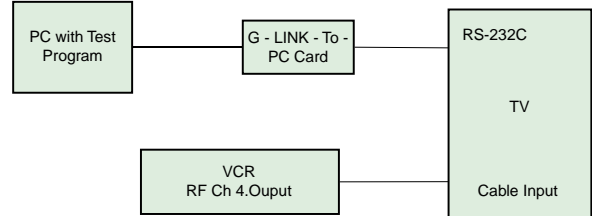
[In case of without the VBI Inserter(TES3), a VCR may be used.]

6-2. Preparation for Adjustments

- (1) In case of with VBI Inserter(TES3): Signal uses Cable input and set as below.



- (2) In case of without VBI Inserter(TES3): VCR uses Cable input and set as below.

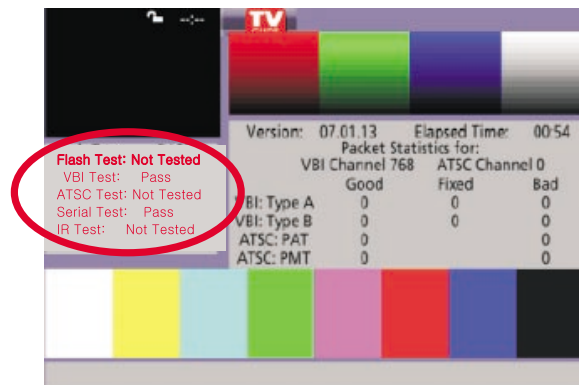


6-3. Adjustment Confirmation Work

- (1) Turn on the TV and run Factory Test Program of PC.

[Program only needs to run once, regardless of set quantity.

- (2) Enter the EZ adjust menu by pressing Adjust on the Service Remote Control (S R/C).
- (3) Go to number 1 Gemstar and press Enter.
- (4) TV set screen will appear as shown.



- (5) Confirm that VBI Test and **Serial Test** PASS from the screen.

7. Cable Operation Confirmation

- (1) Confirm that the Cable Card is inserted in the slot.
- (2) Enter the EZ adjust menu by pressing the Adjust key on the Service Remote Control .
- (3) Go to number 2 Cable Check and press the Right key (G) .
- (4) Confirm items below.

Name	Normal	Defective
Descrambler Check	OK	Not OK
CableCARD	CableCARD™ is inserted.	CableCARD™ is removed.
OOB Path	OK(Lock)	Not OK(Unlock)
FDC_SNR	OK(20dB above)	Not OK(20dB under)
Video Signal	Normal Screen	Black Screen (No Picture)

Cable Check

1. Descrambler Check OK
2. CableCARD CableCARD™ is inserted.
3. OOB Path OK (Lock)
4. FDC_SNR OK (23 dB)

8. POWER PCB Assy Voltage Adjustment

Each PCB Assy must be checked by Check JIG Set before assembly. (Especially, be careful Power PCB Assy which can cause Damage to the PDP Module.)

9. EDID(The Extended Display Identification Data)/DDC (Display Data Channel) Download

This is the function that enables "Plug and Play".

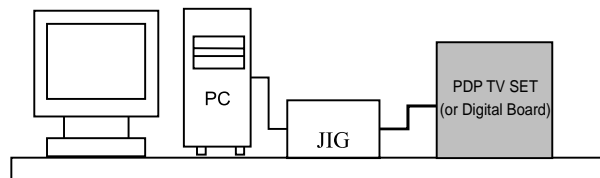
9-1. HDMI EDID Data Input

(1) Required Test Equipment

- 1) PC, Jig for adjusting DDC. (PC serial to D-sub Connection equipment)
- 2) S/W for writing DDC(EDID data write & read)
- 3) D-Sub cable
- 4) Jig for HDMI Cable connection

(2) Preparation for Adjustments & Setting of Device

- 1) Set devices as below and turn on the PC and JIG.
- 2) Open S/W for writing DDC (EDID data write & read). (operated in DOS mode)



9-2. EDID Data for LA61B

- EDID for HDMI-1 (DDC (Display Data Channel) Data)

EDID table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	00	FF	FF	FF	FF	FF	FF	00	1E	6D	5E	9C	01	01	01	01
10	00	10	01	03	80	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	2F	CE	00	31	40	45	40	61	40	01	01	01	01
30	01	01	01	01	01	01	66	21	50	B0	51	00	1B	30	40	70
40	36	00	C4	8E	21	00	00	1E	0E	1F	00	80	51	00	1E	30
50	40	80	37	00	C4	8E	21	00	00	1C	00	00	00	FD	00	38
60	4B	1F	3C	09	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	34	37	4C	42	31	44	41	2D	55	42	0A	20	20	01	2A

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	02	03	16	F1	47	84	05	03	02	20	22	10	23	15	07	50
10	65	03	0C	00	10	00	01	1D	00	72	51	D0	1E	20	6E	28
20	55	00	C4	8E	21	00	00	1E	01	1D	80	18	71	1C	16	20
30	58	2C	25	00	C4	8E	21	00	00	9E	8C	0A	D0	8A	20	E0
40	2D	10	10	3E	96	00	C4	8E	21	00	00	18	8C	0A	D0	8A
50	20	E0	2D	10	10	3E	96	00	13	8E	21	00	00	18	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	95

- EDID for HDMI-2 (DDC (Display Data Channel) Data)

EDID table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	00	FF	FF	FF	FF	FF	FF	00	1E	6D	5E	9C	01	01	01	01
10	00	10	01	03	80	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	2F	CE	00	31	40	45	40	61	40	01	01	01	01
30	01	01	01	01	01	01	01	1D	00	72	51	D0	1E	20	6E	28
40	55	00	C4	8E	21	00	00	1E	01	1D	80	18	71	1C	16	20
50	58	2C	25	00	C4	8E	21	00	00	9E	00	00	00	FC	00	34
60	37	4C	42	31	44	41	2D	55	42	0A	20	20	20	00	00	FD
70	00	38	4B	1F	3C	09	00	0A	20	20	20	20	20	20	01	F8

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	02	03	16	F1	47	84	05	03	02	20	22	10	23	15	07	50
10	65	03	0C	00	20	00	8C	0A	D0	8A	20	E0	20	10	10	3E
20	96	00	C4	8E	21	00	00	18	8C	0A	D0	8A	20	E0	2D	10
30	10	3E	96	00	13	8E	21	00	00	18	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	23

● EDID for RGB

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	00	FF	FF	FF	FF	FF	FF	00	1E	6D	5D	9C	01	01	01	01
10	00	10	01	03	18	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	AF	CE	00	01	01	01	01	01	01	01	01	01	01
30	01	01	01	01	01	01	66	21	50	B0	51	00	1B	30	40	70
40	36	00	C4	8E	21	00	00	1E	0E	1F	00	80	51	00	1E	30
50	40	80	37	00	C4	8E	21	00	00	1C	00	00	00	FD	00	38
60	4B	1F	3C	09	00	0A	20	20	20	20	20	00	00	00	00	FC
70	00	34	37	4C	42	31	44	41	2D	55	42	0A	20	20	00	A5

10. ADC-Set Adjustment

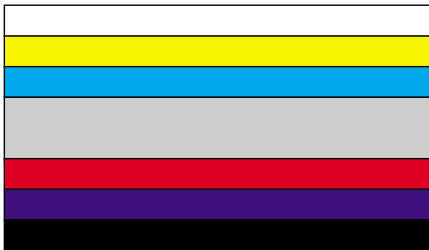
10-1. Synopsis

ADC-Set adjustment to set the black level and the Gain to optimum.

10-2. Test Equipment

Service R/C, 801GF(802B, 802F, 802R) or MSPG925FA Pattern Generator

(720P The Horizontal 100% Color Bar Pattern output will be possible and the output level will accurately have to be revised with $0.7 \pm 0.1Vp-p$)



<Fig. 3> Adjustment Pattern : 480i/1080i 60Hz HozTV31 Bar Pattern

10-3. Adjustment

(1) ADC 480i Component1 Adjustment

Check the connection Component1 to the Test Equipment (MSPG-925FA : -> model : 209, pattern : 65)

- (1) Select Component1 as the input with 100% Horizontal Color Bar Pattern(HozTV31Bar) in 480i Mode and select 'Normal' in screen.
- (2) After receiving signal for at least 1 second, press the ADJ Key on the Service R/C to enter the 'Ez - Adjust' and select the '4. ADC 480i Comp1'.
- (3) Pressing the Enter Key to adjust with automatic movement.
- (3) When the adjustment is over, 'ADC Component1 Success' is displayed.
- (4) If the adjustment has errors, 'ADC Configuration Error' is displayed. And error message('Component Not Connection' or 'Change Format to 480i' or 'Check Pattern of device') is displayed for 1 second.

(2) ADC 1080i Component2/RGB Adjustment

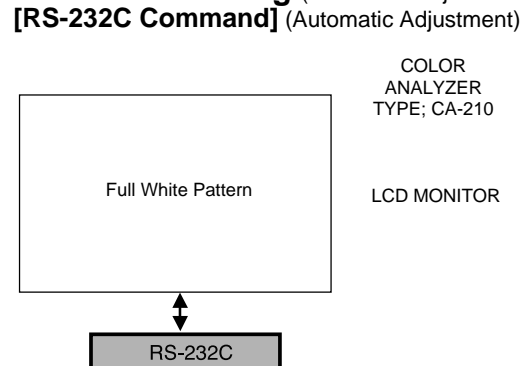
Check the connection Component2, RGB to the Test Equipment

(MSPG-925FA : -> model : 223, pattern : 65)

- (1) Select Component1 as the input with 100% Horizontal Color Bar Pattern(HozTV31Bar) in 1080i Mode and select 'Normal' in screen.
- (2) After receiving signal for at least 1 second, press the ADJ Key on the Service R/C to enter the 'Ez - Adjust' and select the '5. ADC 1080i Comp1/RGB'.
- (3) Pressing the Enter Key to adjust with automatic movement.
- (3) When the adjustment is over, 'ADC Component1 Success' is displayed. If the adjustment has errors, 'ADC Configuration Error' is displayed.
- (4) After the Component1 adjustment is over, convert the RGB-DTV Mode and display Pattern.
- (5) When the adjustment is over, 'ADC RGB_DTV Success' is displayed.
- (5) Readjust after confirming the case Pattern or adjustment condition where the adjustment errors.
- (6) After adjustment is complete, exit the adjustment mode by pressing the ADJ KEY.

11. Adjustment of White Balance

11-1. Connection Diagram of Equipment for Measuring (Automatic Adjustment)



<Fig. 4> Connection Diagram of Automatic Adjustment

	RS-232C COMMAND [CMD ID DATA]			Min	CENTER (DEFAULT)			Max
	Cool	Mid	Warm		Cool	Mid	Warm	
R Gain	Jg	Ja	Jd	00	184	195	192	192
G Gain	Jh	Jb	Je	00	187	183	159	192
B Gain	Ji	Jc	Jf	00	192	161	95	192
R Cut					64	64	64	127
G Cut					64	64	64	127
B Cut					64	64	64	127

11-2. Adjustment of White Balance

- o Operate the Zero-calibration of the CA-210, then attach sensor to LCD module surface when you adjust.
- o Manual adjustment is also possible by the following sequence.

- (1) HEAT RUN at least 30 minutes by pressing the **Power only Key** on the Service Remote Control and adjust.
- (2) After attaching sensor to center of screen, select 'White-Balance' of 'Ez - Adjust' by pressing the ADJ KEY on the Service R/C. Then enter adjustment mode by pressing the Right KEY (G). This time white pattern is displayed.

(3) Cool

R Gain 192, R-Cut/G-Cut/B-Gut 64
Hight Light G Gain/B Gain

Medium

R Gain 192, R-Cut/G-Cut/B-Gut 64
Hight Light G Gain/B Gain

Warm

R Gain 192, R-Cut/G-Cut/B-Gut 64
Hight Light G Gain/B Gain

High Level: 216gray

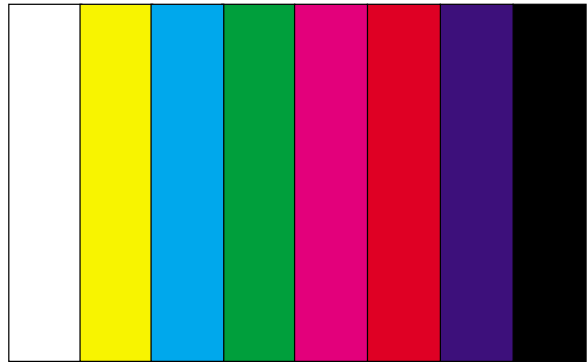
- (4) Adjust using Volume +/- KEY.
- (5) After adjustment is complete, exit the adjustment mode by pressing the ADJ KEY.

12. Video(uPD)-Set

Adjustment for reduce color difference Main/Sub screen of RF or Video signal.

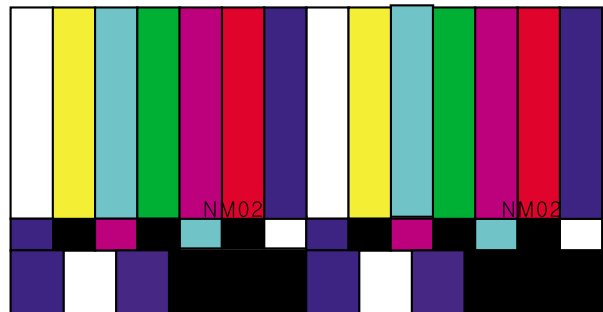
12-1. Adjustment

- (1) Connection the Video Signal Generator(Master) to the TV AV Input terminal.
After input pattern(Model: 201(NTSC-M), Pattern: 33(100% color Bar), pressing the 'Rev' button and appear as below figure

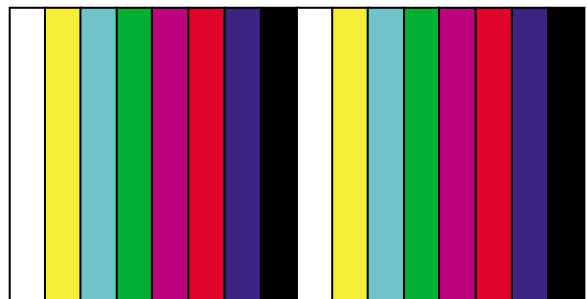


<Model : 201(NTSC-M), Pattern : 33(100% color Bar)>

- (2) After receive signal, confirm the signal receiving.
And Enter the 'EZ-ADJUST' by pressing the ADJ Key on the Service R/C.
Select '5. Video(UPD)-Set' and enter the adjustment mode by pressing the right key (G).
- (3) When enter the adjustment mode, displayed the TV 2CH SPLIT Screen automatic at picture and appear as below figure.



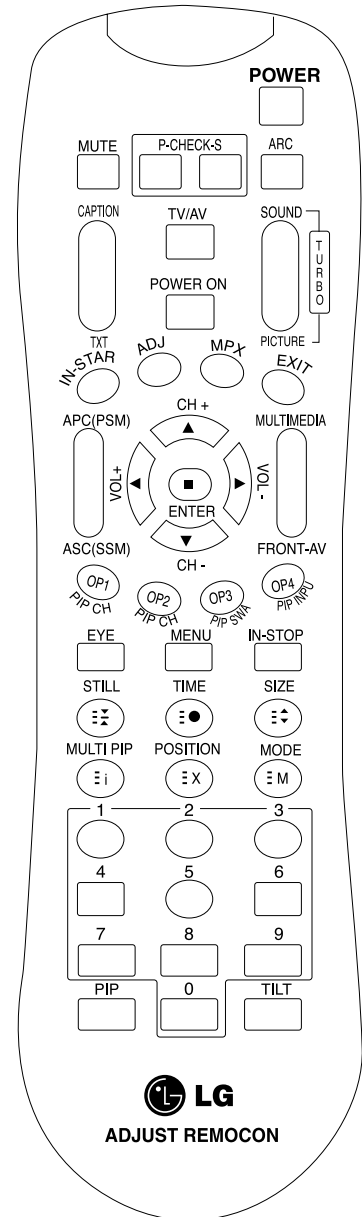
- (4) When the automatic adjustment is over, 'RF Configuration Success' is displayed. If the adjustment has errors, 'Video Configuration Error' is displayed.



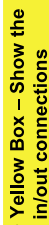
- (5) After the RF signal automatic adjustment is over, convert the Video Mode as below figure and adjust with automatic movement the Video Mode.
When the automatic adjustment is over, 'Video Configuration Success' is displayed. If the adjustment has errors, 'Video Configuration Error' is displayed

SVC REMOCON

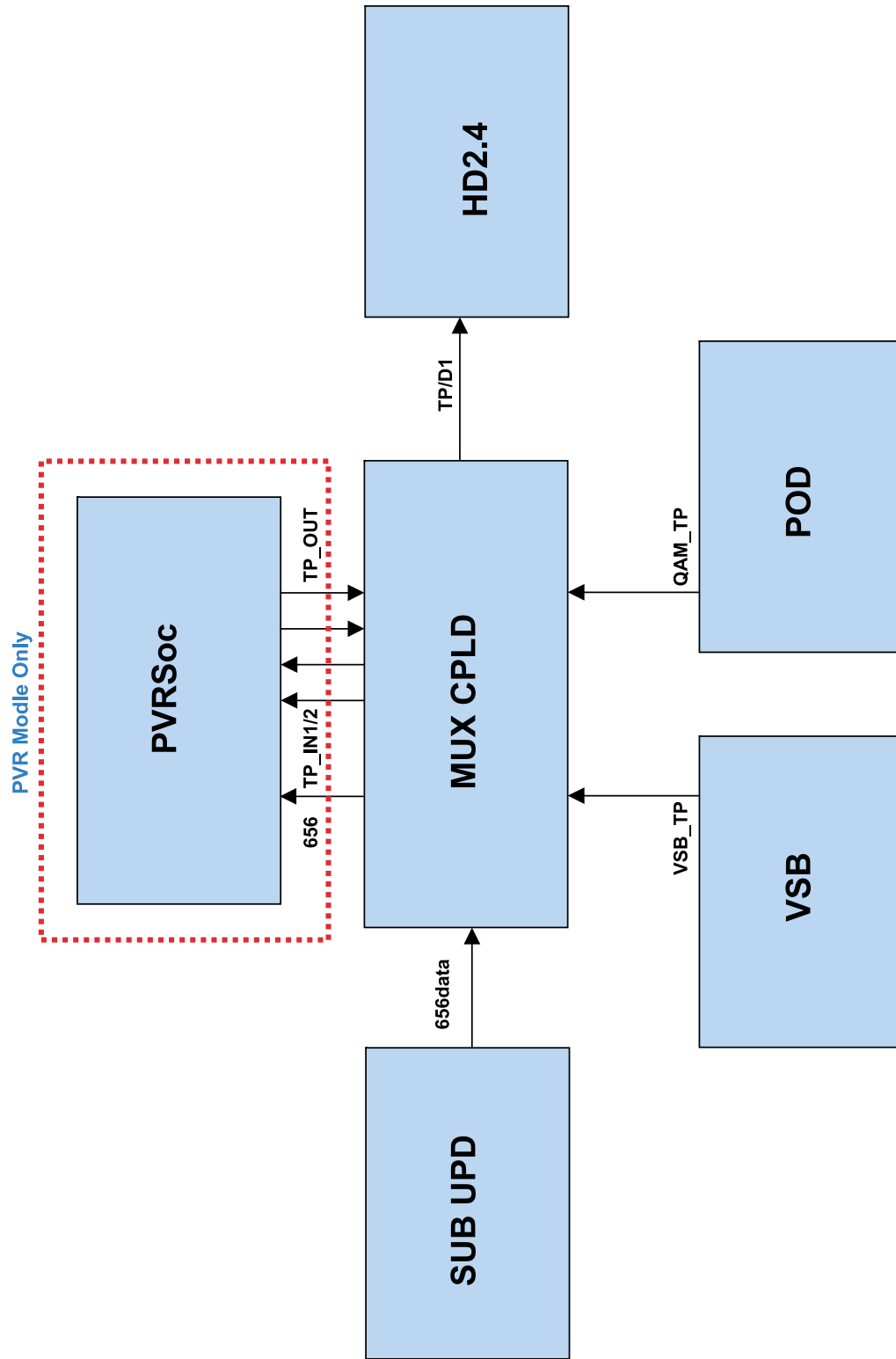
NO	KEY	FUNTION	REMARK
1	POWER	To turn the TV on or off	
2	POWER ON	To turn the TV on automatically if the power is supplied to the TV. (Use the POWER key to deactivate): It should be deactivated when delivered.	
3	MUTE	To activate the mute function.	
4	P-CHECK	To check TV screen image easily.	Shortcut keys
5	S-CHECK	To check TV screen sound easily	Shortcut keys
6	ARC	To select size of the main screen (Normal, Spectacle, Wide or Zoom)	Shortcut keys
7	CAPTION	Switch to closed caption broadcasting	
8	TXT	To toggle on/off the teletext mode	
9	TV/AV	To select an external input for the TV screen	
10	TURBO SOUND	To start turbo sound	
11	TURBO PICTURE	To start turbo picture	
12	IN-START	To enter adjustment mode when manufacturing the TV sets.	Use the AV key to enter the screen W/B adjustment mode.
		To adjust the screen voltage (automatic): In-start → mute → Adjust → AV(Enter into W/B adjustment mode)	
		W/B adjustment (automatic): After adjusting the screen →W/B adjustment →Exit two times (Adjustment completed)	
13	ADJ	To enter into the adjustment mode. To adjust horizontal line and sub-brightness.	
14	MPX	To select the multiple sound mode (Mono, Stereo or Foreign language)	
15	EXIT	To release the adjustment mode	
16	APC(PSM)	To easily adjust the screen according to surrounding brightness	
17	ASC(SSM)	To easily adjust sound according to the program type	
18	MULTIMEDIA	To check component input	Shortcut keys
19	FRONT-AV	To check the front AV	Shortcut keys
20	CH ±	To move channel up/down or to select a function displayed on the screen.	
21	VOL ±	To adjust the volume or accurately control a specific function.	
22	ENTER	To set a specific function or complete setting.	
23	PIP CH-(OP1)	To move the channel down in the PIP screen. To use as a red key in the teletext mode	
24	PIP CH+(OP2)	To move the channel in the PIP screen To use as a green key in the teletext mode	
25	PIP SWAP(OP3)	To switch between the main and sub screens To use as a yellow key in the teletext mode	
26	PIP INPUT(OP4)	To select the input status in the PIP screen To use as a blue key in the teletext mode	
27	EYE	To set a function that will automatically adjust screen status to match the surrounding brightness so natural color can be displayed.	
28	MENU	To select the functions such as video, voice, function or channel.	
29	IN-STOP	To set the delivery condition status after manufacturing the TV set.	
30	STILL	To halt the main screen in the normal mode, or the sub screen at the PIP screen. Used as a hold key in the teletext mode (Page updating is stopped.)	
31	TIME	Displays the teletext time in the normal mode Enables to select the sub code in the teletext mode	
32	SIZE	Used as the size key in the PIP screen in the normal mode Used as the size key in the teletext mode	
33	MULTI PIP	Used as the index key in the teletext mode (Top index will be displayed if it is the top text.)	
34	POSITION	To select the position of the PIP screen in the normal mode Used as the update key in the teletext mode (Text will be displayed if the current page is updated.)	
35	MODE	Used as Mode in the teletext mode	
36	PIP	To select the simultaneous screen	
37	TILT	To adjust screen tilt	Shortcut keys
38	0~9	To manually select the channel.	



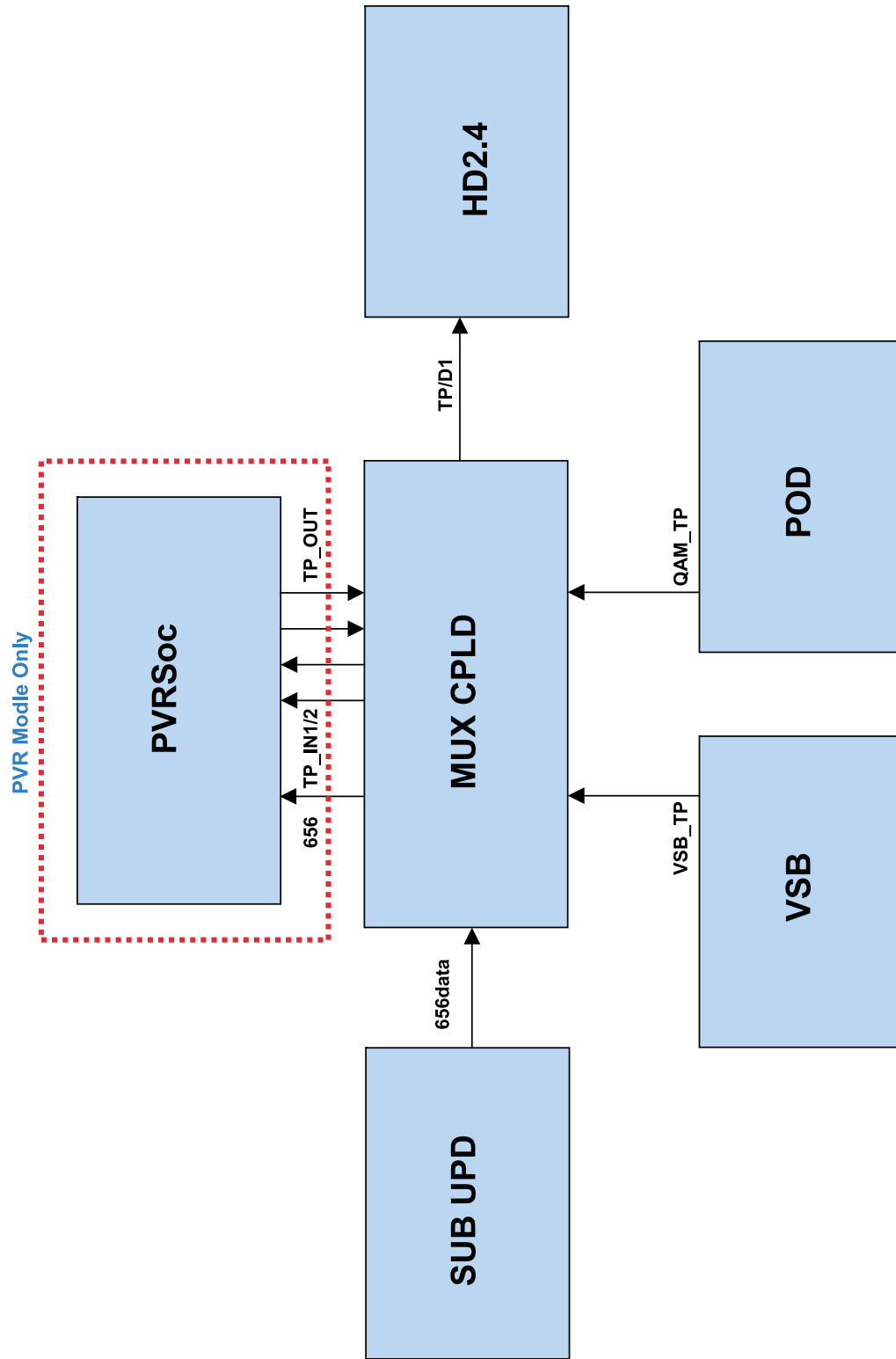
EVEREST2 DCR(DVR) BLOCK DIAGRAM



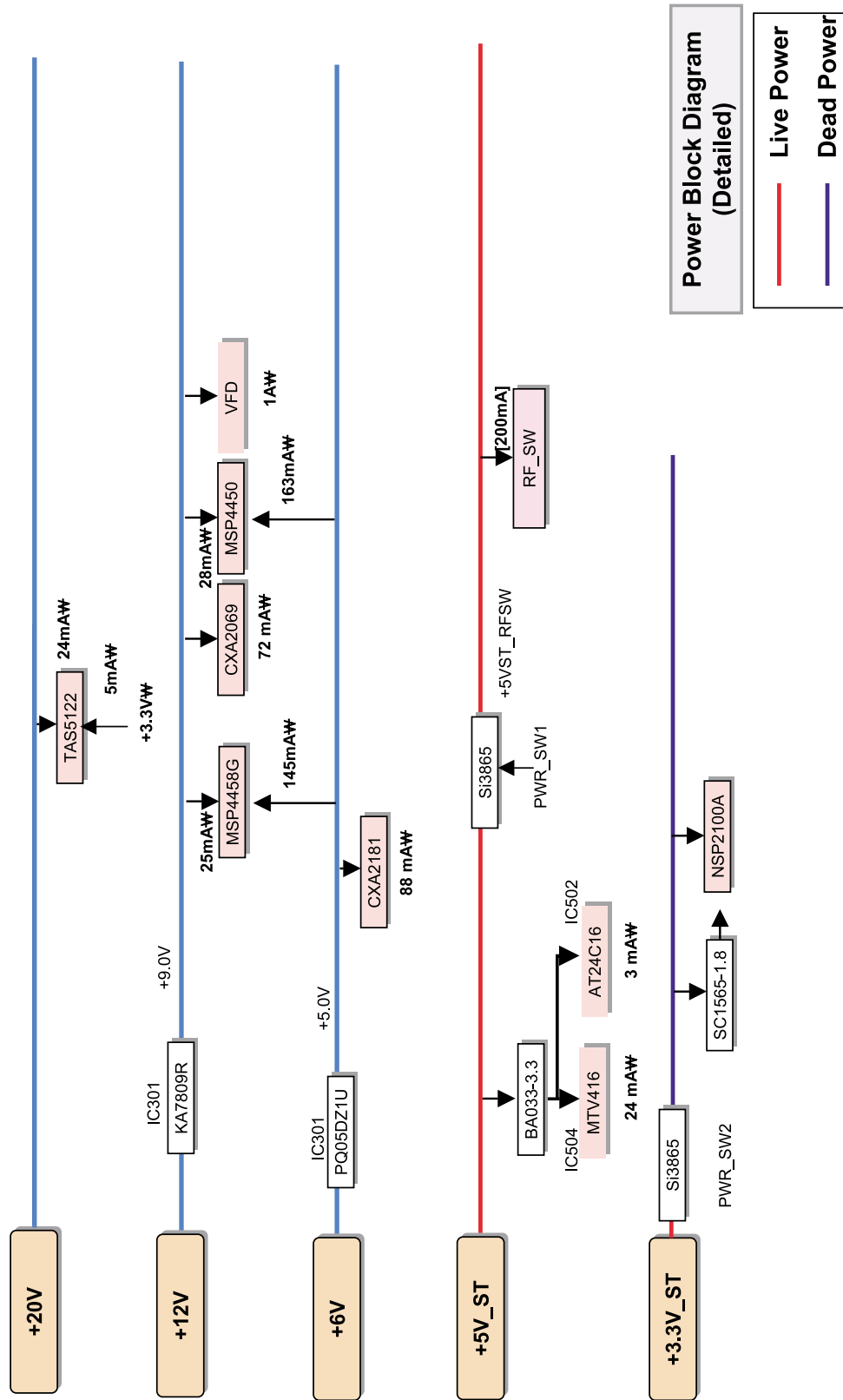
EVEREST2 Digital B/D MUX INERFACE



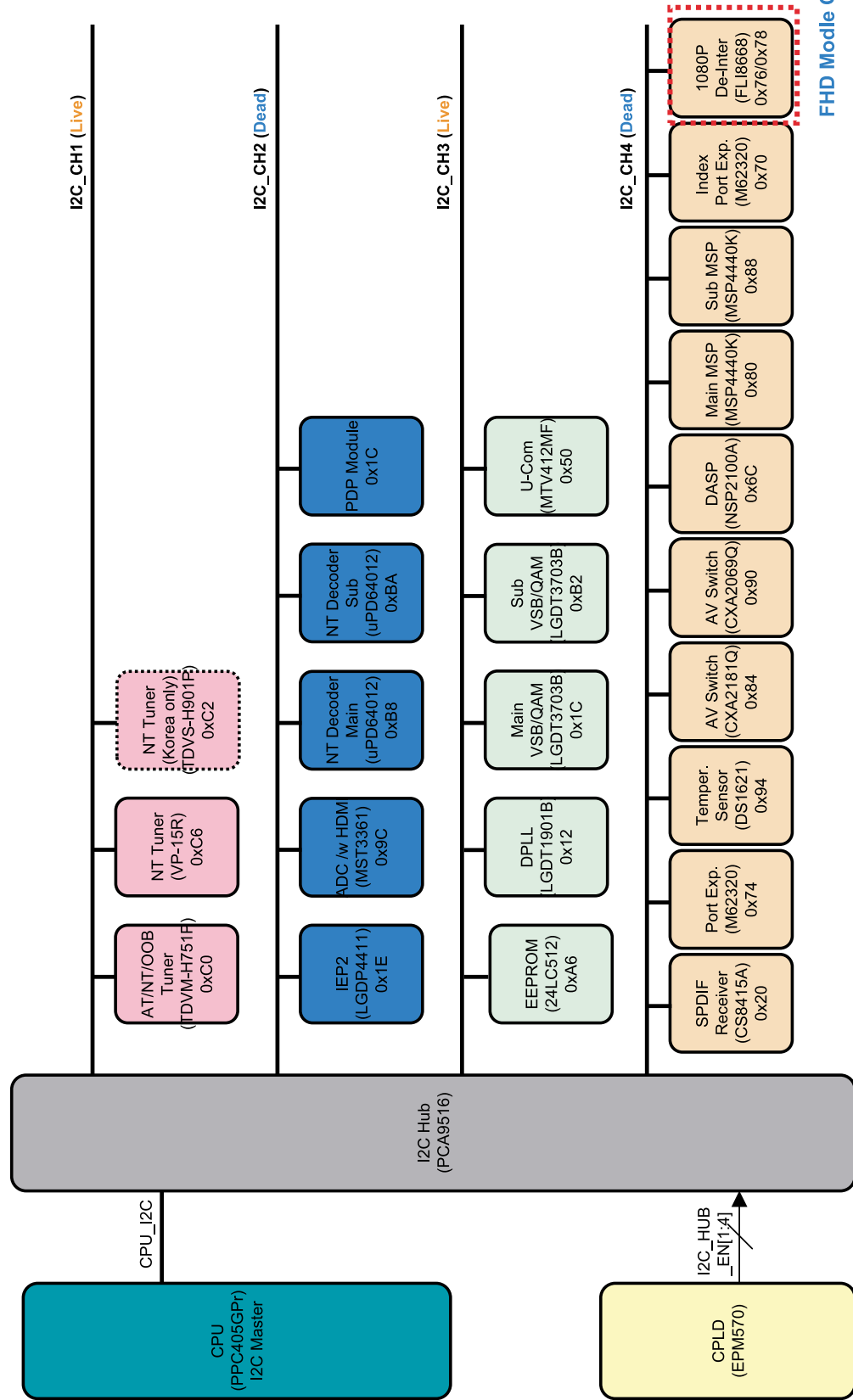
EVEREST2 Digital B/D MUX INERFACE



EVEREST2 Digital B/D POWER BLOCK



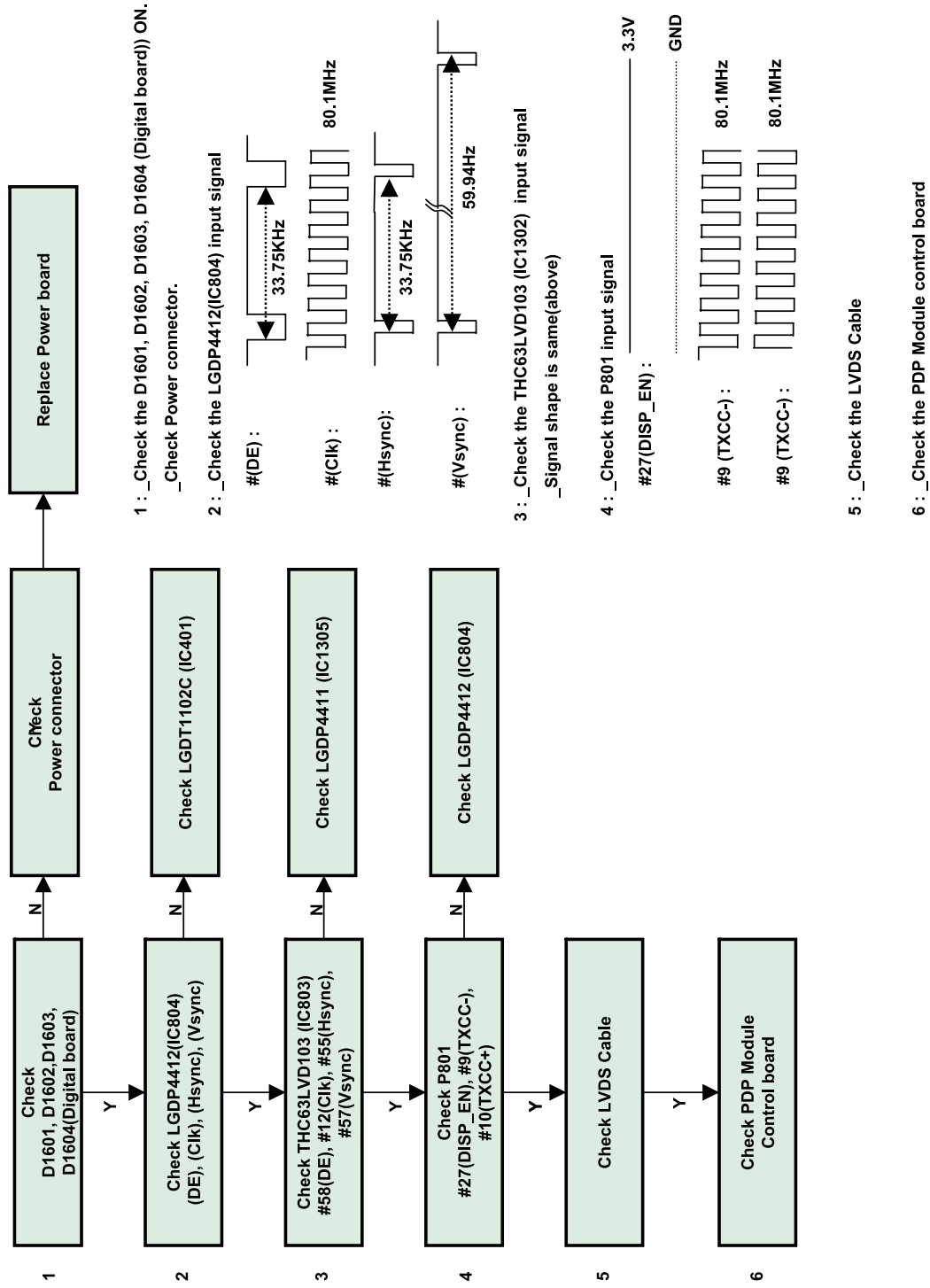
EVEREST2 DCR(DVR) I2C MAP



The diagram illustrates the system architecture of the PPC405GPr. Key components and their interconnections include:

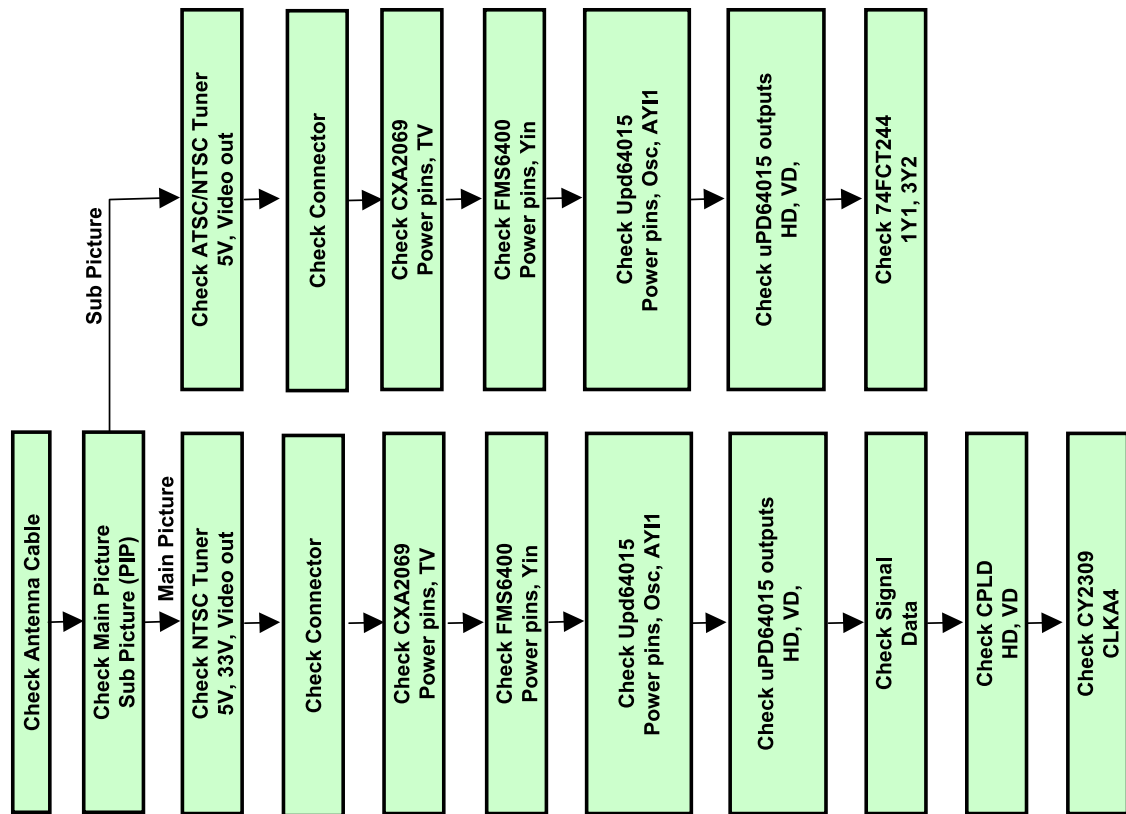
- Memory and Storage:** Flash Mem (24MB) and SDRAM (64MB) are connected to the PPC405GPr via a PCI Bus. An HDD and EPF are connected to the SDRAM.
- Processing and Control:** The PPC405GPr is connected to the SiI3512 and the LGDT1304(PVR SOC). The LGDT1304 is further connected to the LGDT3703 and the LGDT3502.
- Video and Audio Processing:** The LGDT3703 and LGDT3502 are connected to the V1V2 and V1V4 video processors. The V1V2 and V1V4 are connected to the CXA2069 and CXA2181 video processors. The CXA2069 and CXA2181 are connected to the MST3361 and the Gemstar Block.
- Input/Output and Peripherals:** The system includes various input/output ports such as AV1, AV2, Monitor Out, COMP1, COMP2, RGB, and HDM11/HDM12. It also includes a Gemstar Block and a V1V4 video processor.
- System Integration:** The PPC405GPr is connected to the SiI3512 and the LGDT1304(PVR SOC). The LGDT1304 is connected to the LGDT3703 and the LGDT3502. The LGDT3703 and LGDT3502 are connected to the V1V2 and V1V4 video processors. The V1V2 and V1V4 are connected to the CXA2069 and CXA2181 video processors. The CXA2069 and CXA2181 are connected to the MST3361 and the Gemstar Block.

EVEREST2 DCR(DVR) NO OSD



[illegible]

EVEREST2 DCR(DVR) RF/AV MODE



1 : _Check Antenna cable (RF Switch, Tuner ..)

2 : _Execute DW or PIP

3 : _Check Tuners Vcc and Video out

4 : _Check CXA2069 power, input signal _TV, V5 signal shape looks like figure7.1

5 : _Check FMS6400 power, input signal _Yin signal shape looks like figure7.1

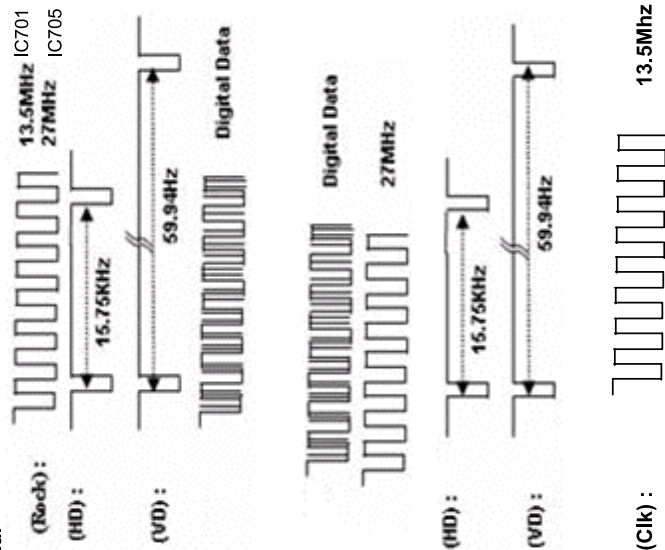
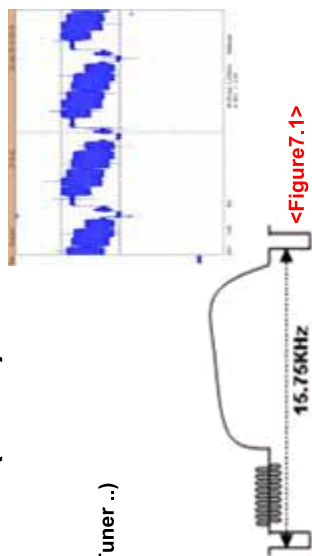
6 : _Check uPD64001 power, input signal _AY11 signal shape looks like figure7.1

7 : _Check uPD64011 output signal

8 : _Check the signal

9 : _Check the signal

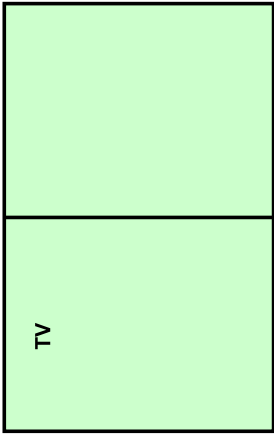
10 : _Check the signal



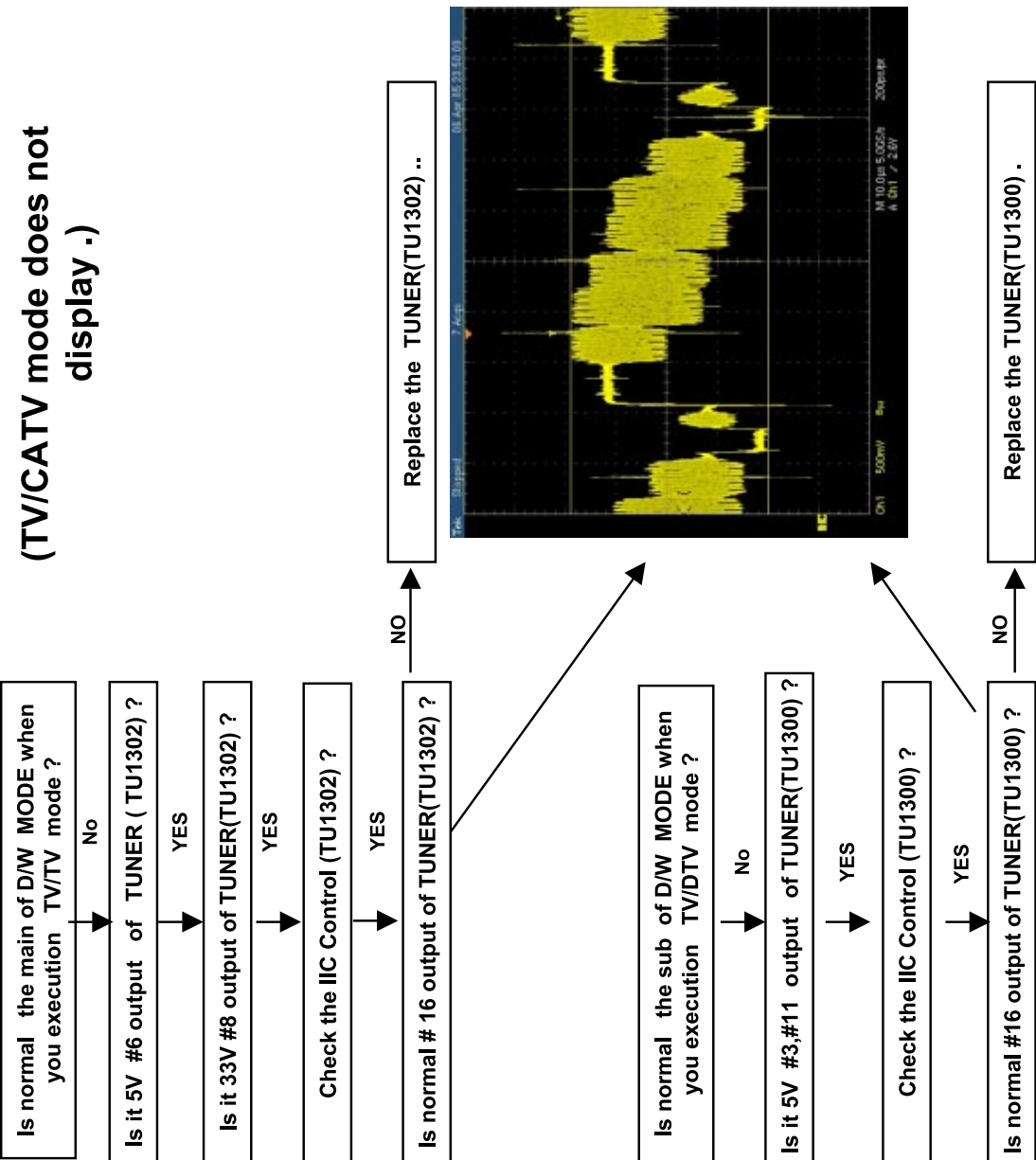
EVEREST2 DCR(DVR) RF MODE (Detailed)

1. Check follow

1-1. Execution PIP or D/W mode



(TV/CATV mode does not display .)



EVEREST2 DCR(DVR) RF MODE

1. Check follow

1-2. When it is normal output of the TUNER

Is normal the main of D/W MODE?

Is it 9V #42 of CXA2069(IC101) ?

Is normal #56 output of CXA2069(IC101)?
FIG1

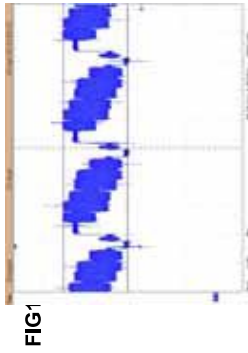


FIG1

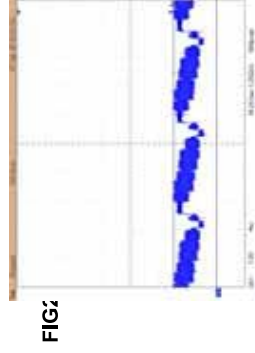


FIG2

Is normal the sub of D/W MODE?

Is it 9V #42 of CXA2069(IC101) ?

Is normal #44 output of CXA2069(IC101)?
FIG1

Is normally connected P101 to P1612 ?
Flat cable

Is normal output of FMS6400(IC702) ?
FIG2

Is normal UPD64015 Power(1.5V,3.3V)

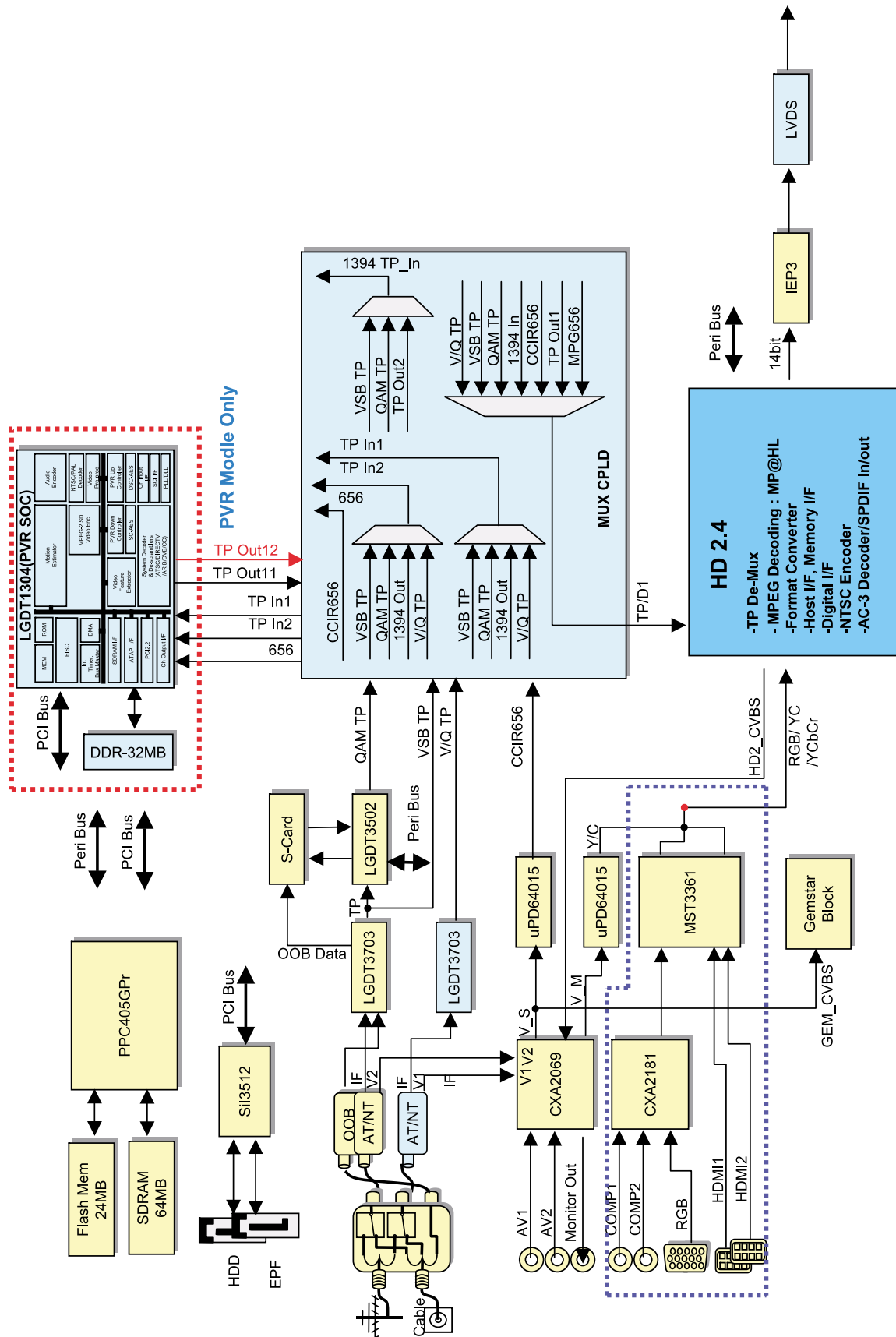
Is normal output of UPD64015(IC701)?
Digital Output Y(10bit),C(10bit),H/V,FID

Is normal output of FMS6400(IC704) ?
FIG2

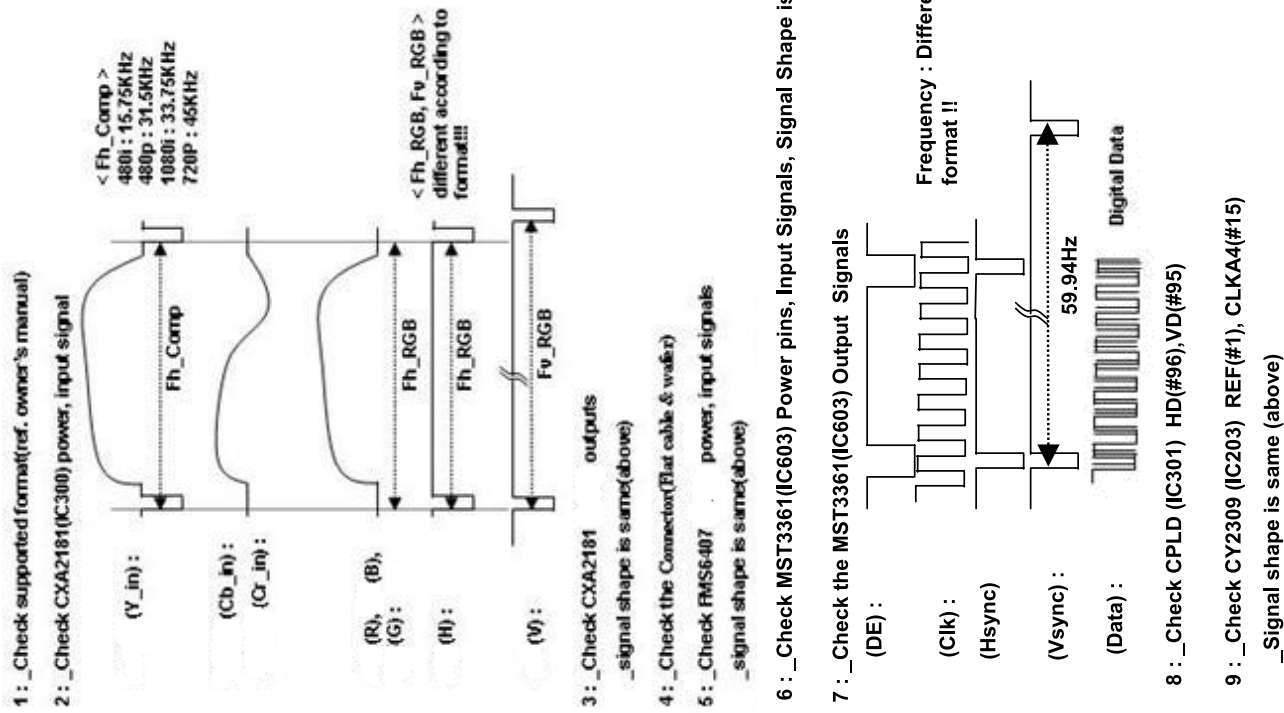
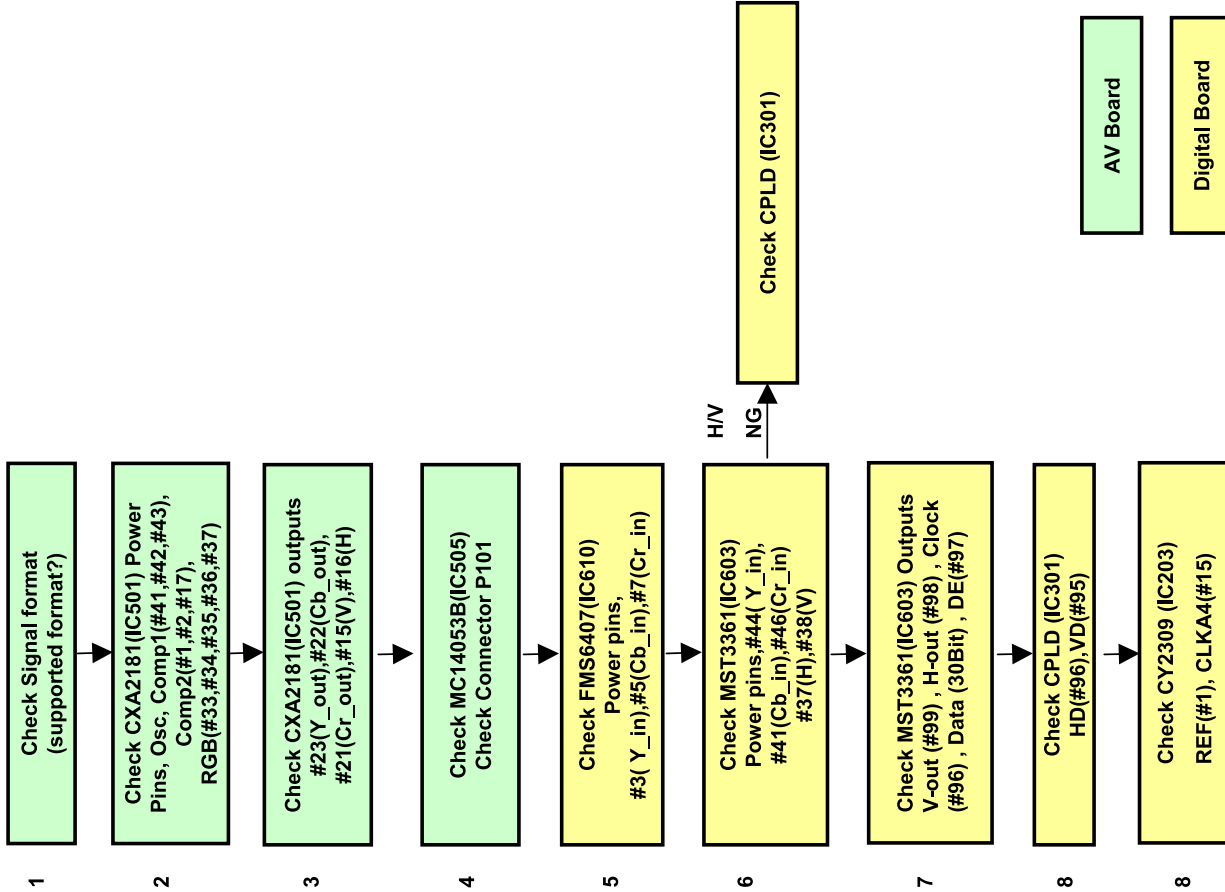
Is normal UPD64015 Power(1.5V,3.3V)

Is normal output of UPD64015(IC701)?
Digital Output Y(10bit),C(10bit),H/V,FID

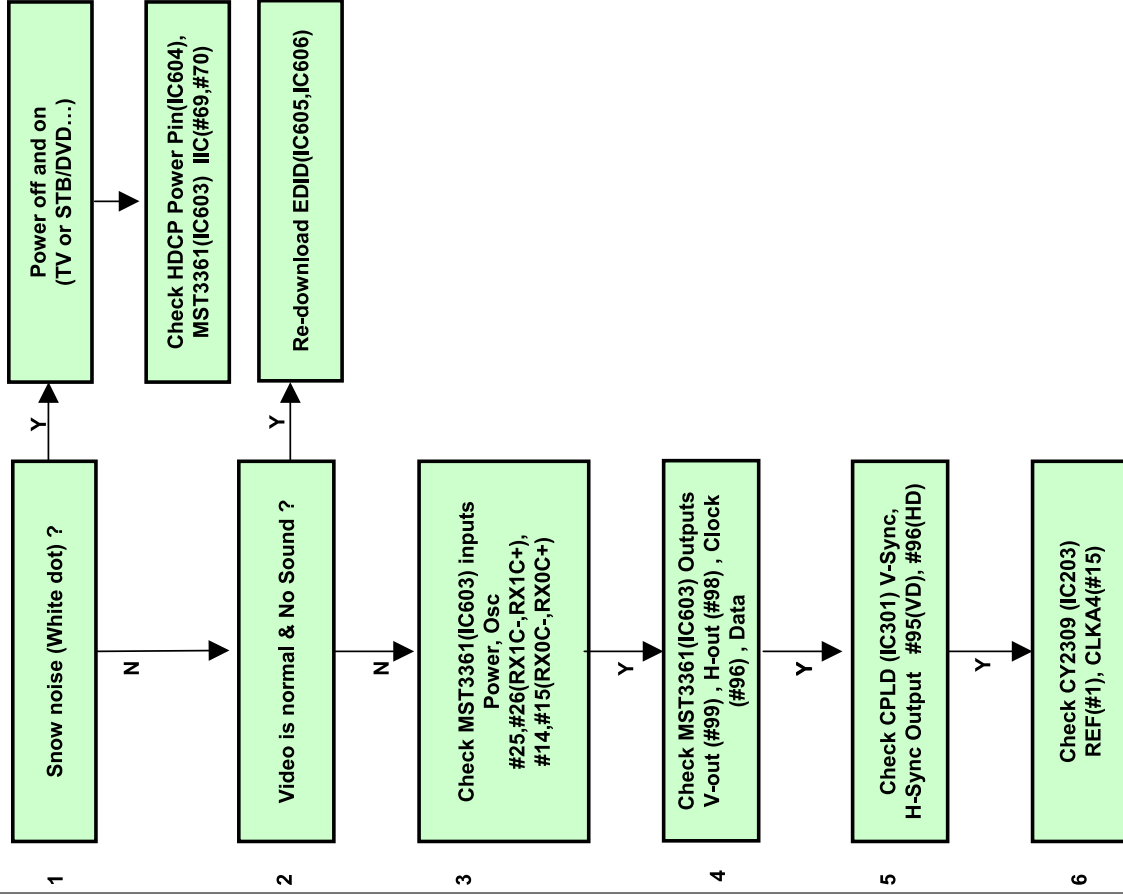
EVEREST2 COMPONENT/RGB/HDMI/DVI



EVEREST2 DCR COMPONENT/RGB



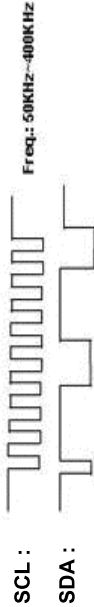
EVEREST2 DCR(DVR) HDMI/DVI



1 : _Check HDCP Error

_Retry power off and on (TV or STB/DVD...)

_Check MST3361(IC603) HDCP IIC line (#69,#70)



2 : _Check EDID Download

3 : _MST3361(IC603) inputs

(RX0C-,RX0C+) :

(RX1C-,RX1C+) :

Frequency : Different according to
format !!

4 : _Check MST3361(IC603) Outputs

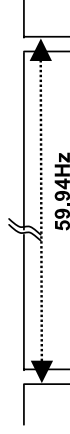
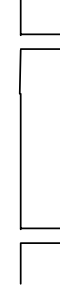
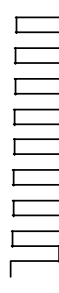
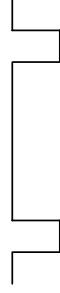
(DE) :

(Clk) :

(Hsync)

(Vsync) :

(Data) :



Frequency : Different according to
format !!

5 : _Check CPLD (IC301) V-Sync, H-Sync Output #95(VD), #96(HD)

_Signal shape is same (above)

6 : _Check CY2309 (IC203) REF(#1), CLKA4(#15)

_Signal shape is same (above)

The diagram illustrates the PVR Module architecture, which is divided into three main functional blocks: the PPC405GPr, the LGDT1304(PVR SOC), and the HD 2.4.

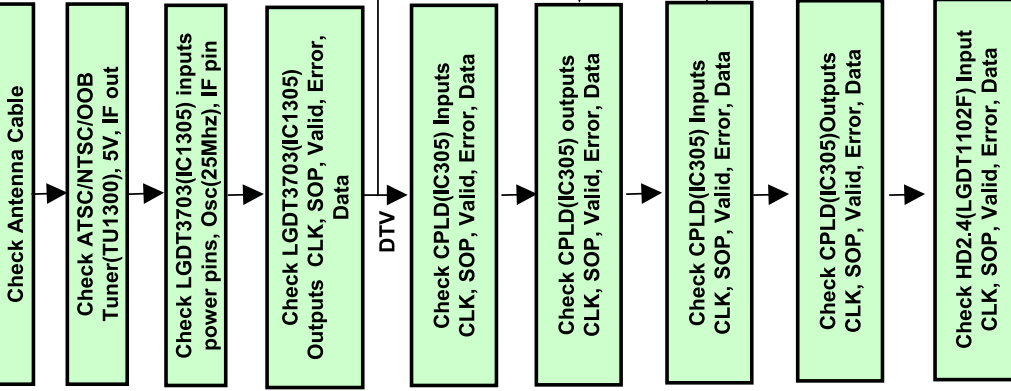
PPC405GPr: This block contains the main processing and storage components, including Flash Mem (24MB), SDRAM (64MB), HDD, EPF, and a PCI Bus interface. It is connected to the LGDT1304(PVR SOC) via a PCI Bus.

LGDT1304(PVR SOC): This block is the central processing unit for the PVR module. It includes a MEM, EBC, and a system of interconnected modules for video processing, audio, and system control. It is connected to the PPC405GPr via a PCI Bus and to the HD 2.4 via a TP/D1 interface. It also has a TP Out12 output.

HD 2.4: This block handles the video output and includes a De-Mux, M-PEG Decoding, Format Converter, Host I/F, Memory I/F, Digital I/F, NTSC Encoder, and AC-3 Encoder/SPDIF In/out. It is connected to the LGDT1304(PVR SOC) via a TP/D1 interface and to the LVDS output via a 14bit interface.

Interconnections: The PPC405GPr is connected to the LGDT1304(PVR SOC) via a PCI Bus. The LGDT1304(PVR SOC) is connected to the HD 2.4 via a TP/D1 interface. The HD 2.4 is connected to the LVDS output via a 14bit interface. The LGDT1304(PVR SOC) also has a TP Out12 output.

EVEREST2 DCR(DVR) DTV / CADTV



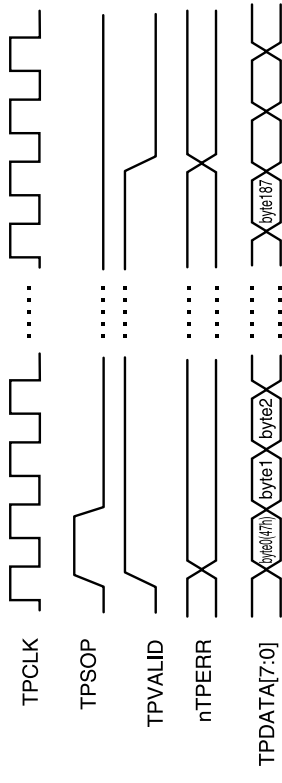
1 : _ Check Antenna cable(RF switch, Tuners...)

2 : _ Check Tuners Vcc and IF out



3 : _ Check LGDT3703(IC1305) inputs power pins, Osc(25Mhz), IF pin Signal

4 : _ Check LGDT3703(IC1305) Outputs



5 : _ In case of DTV Check CPLD(IC305) Inputs (CLK, SOP, Valid, Error, Data)

_ Signal Shape is same (above)

6 : _ In case of CADTV Check POD Controller

_ Signal Shape is same (above)

7 : _ Check CPLD(IC305) Inputs (CLK, SOP, Valid, Error, Data)

8 : _ Check PVR Soc(LGDT1304)

9 : _ Check CPLD(IC305)Outputs (CLK, SOP, Valid, Error, Data)

10 : _ Check HD2.4(LGDT1102F) Input (CLK, SOP, Valid, Error, Data)

POWER ON-OFF REPETITION(AUTOMATICALLY)

Symptom : TV set powers on (LED :White) and off (LED :Red) repeatedly of itself. (No video)

Check X1100 (10MHz)
Normal?

YES
↓

Re-download PIC18F1220(IC1103)
Normal?

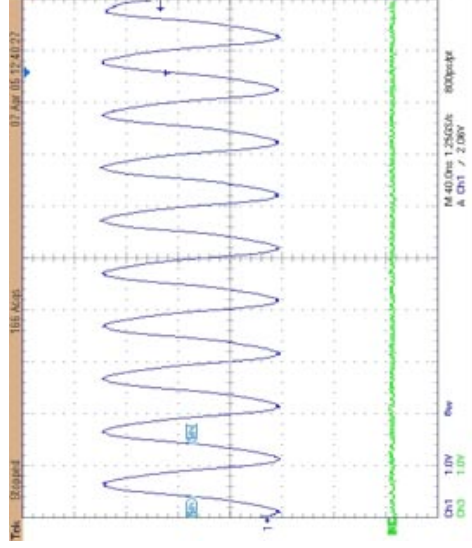
NO
↓

Replace PIC18F1220 (IC1103)
and Re-download

No Video ?

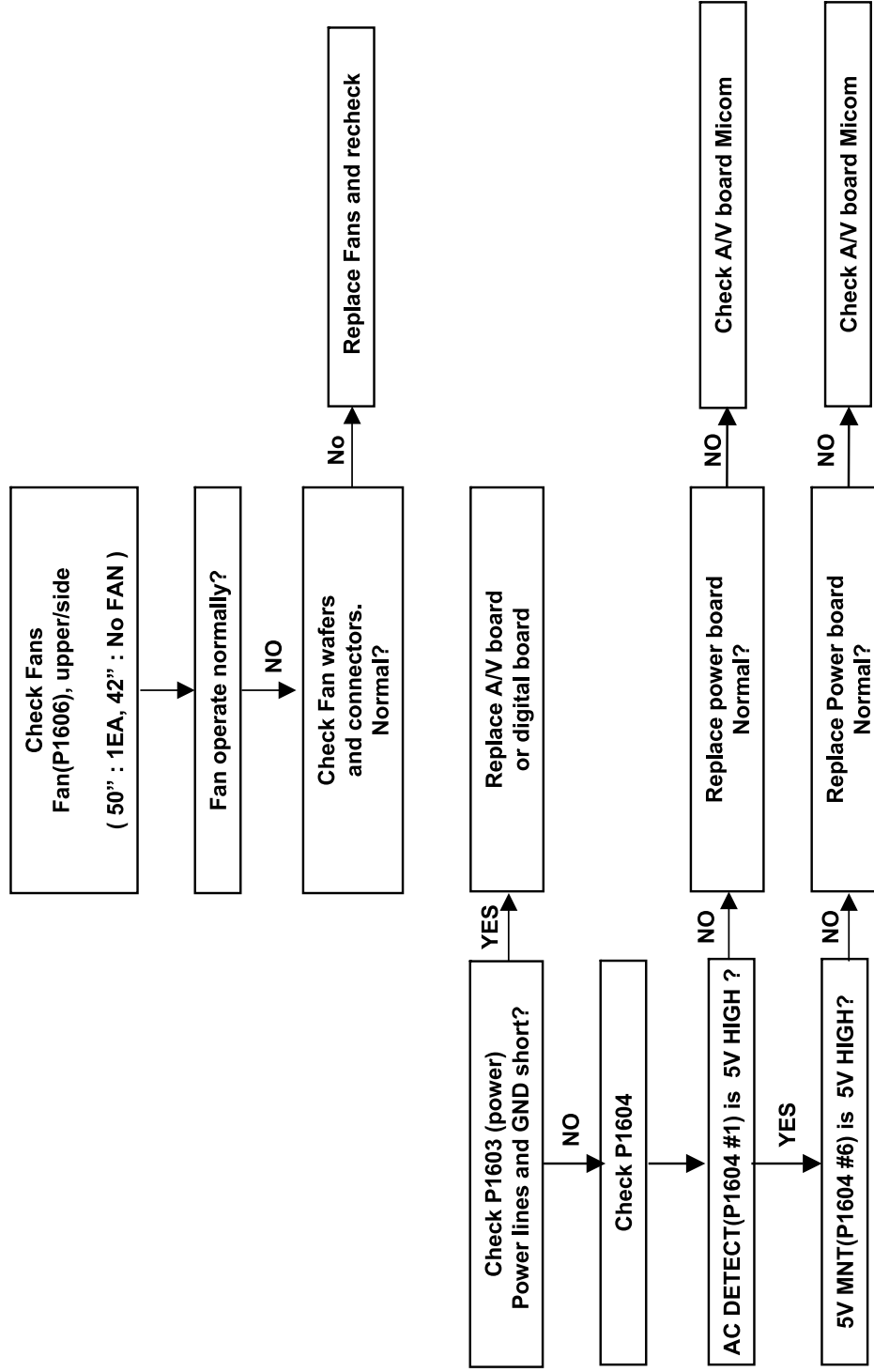
YES
↓

Check CPLD LED and Re-
download



PROTECT MODE

Symptom : When TV set powers on, LED is blinking in seconds. And power off(LED is red)



CableCARD™ TROUBLESHOOTING GUIDE

CableCARD Definition

1. CableCARD device is A PCMCIA card distributed by cable operators and inserted into a DCR TV(Host) to enable premium services, also called "Card" and "Point of Deployment(POD) module". It provides authorization, CA(Conditional Access) decryption and CP(Copy Protection) encryption functions for the consumer's DCR TV.

Troubleshooting in the Home for CableCARD Installers

- It is recommended that installers bring along a couple of CableCARDs for troubleshooting. This will help eliminate the CableCARD as a possible problem during the installation.
- Before installing the CableCARD, installers should check that the Digital Cable Ready (DCR), also referred to as a HOST, is functional without a CableCARD.
 - Verify Host (TV) Operation: The installer can perform this by connecting the RF cable to the correct cable input of the DCR (there may be connections for a terrestrial antenna) and verifying good picture quality. The DCR will display all non- encrypted analog and digital content. (The DCR must not receive RF signal via a STB or accessory RF modulator.) This will eliminate basic TV circuitry as a possible problem.
 - Check that the CableCARD is inserted properly. When inserting cable card push carefully but firmly until you feel the card click into place.
 - Verify RF from Cable System Tap: The installer can also connect a cable set top box to confirm reception of encrypted digital services. This will help eliminate the RF signal as a possible problem.
- If the first CableCARD installed does not result in a User Interface screen (also referred to as MMI screen) within 5 - 7 minutes, try unplugging the AC Power cord of the DCR and reconnecting it (to reset the DCR) then try to await coming out of the user Interface screen again. If this is still unsuccessful, try another CableCARD.
 - To eliminate the possibility of a damaged CableCARD or DCR device, the technician should look closely at the CableCARD device to ensure that none of the pinholes are blocked or clogged.
 - Check Host Interface. Using a flashlight, the technician should check the CableCARD slot on the DCR TV to ensure that there are no bent pins.
- If the second CableCARD is successful, make sure the CSR or Dispatcher knows the new MAC ID and CableCARD ID to complete the installation. The original card should be marked accordingly and returned for repair.
- Check the CableCARD menu options.

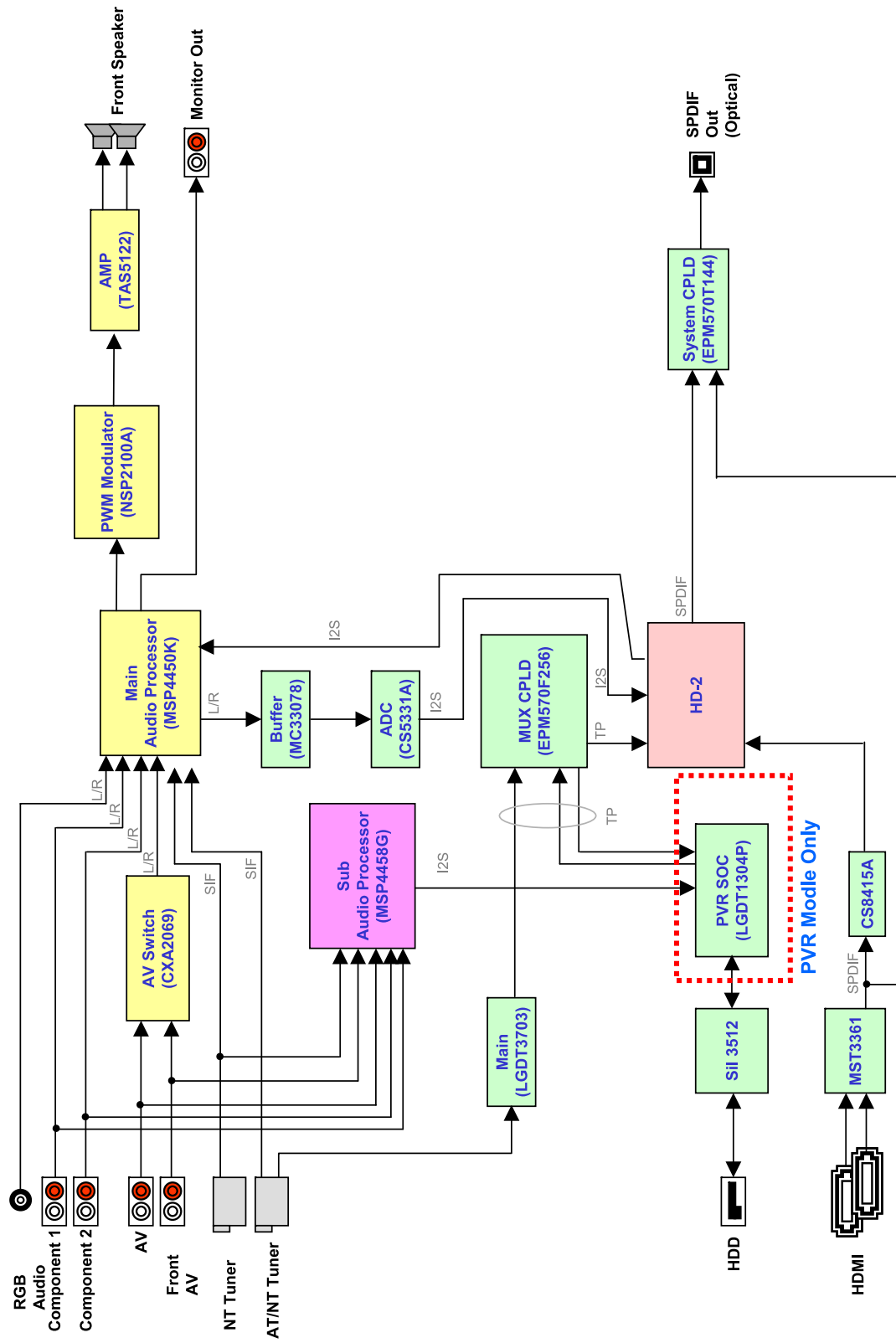
If the second CableCARD fails to bring up the User Interface screen, the technician should refer to the diagnostic menus on the DCR for further troubleshooting. The technician can pull up the User Interface screen manually through the menu choices. the customer should provide the User Manual, so the technician can easily navigate through the DCR TV menu screens. Below table describes how to navigate the CableCARD menu. This list of selectable CableCARD options will vary, depending on your cable service provider or CableCARD manufacturer. Also, below table shows how to access diagnostic screens for the DCR TV. Many of these screens are not described in the User Manual.

CableCARD Mfg	Diagnostic Type	1st key	2nd key	3rd key
ALL	CableCARD main menu	MENU	Use cursor to select CABLE ico n then press ENTER	N/A
Motorola	CableCARD pairing status	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select CableCARD. Pairing option, press ENTER
Motorola	Network status	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select Network. Setup option, press ENTER
Motorola	CableCARD status	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select CableCard. Stautus option, press ENTER
Mororola	CA status	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select Conditional. Access option, press ENTER
NDS	CableCARD pairing status	MENU	Use cursor to select CABLE ico n then press ENTER	Use Cursor to select CableCARD. Pairiong option, press ENTER
NDS	Network status	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select Network Setup option, press ENTER
NDS	CA status	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select Conditional Access option, press ENTER
SA	CableCard Diagnostics	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select SA125 125CableCARD Diag option, press ENTER
SA	CableCard pairing status	MENU	Use cursor to select CABLE ico n then press ENTER	USE CURSOR TO SELECT SA CableCARD HOST ID optio, press ENTER
SA	CableCARD Copy protection information	MENU	Use cursor to select CABLE ico n then press ENTER	Use cursor to select SA CableCARD CP Screen option, press ENTER

7. If installer is still having a problem, the installer should report the problem to the MSO headend dispatcher for troubleshooting. If the cable company dispatcher (head end personnel) has completely checked their channel set-up, confirmed the accounting/ billing system to setup is correct, and has confirmed normal channel map with a or more other DCR TVs at the MSO headend, then go on to the next step.
8. If the installer determines that the DCR device is the problem (unit failed either item 2a or 3b above) and can go no further in correcting the problem, and if the installer determines that the host- pod pairing screen cannot be displayed with multiple CableCARDs, he or she should follow the directions given by the CE manufacturer in informing the customer of their options, usually involving either a return of the DCR device to the retail outlet from which it was purchased or The customer should start by contacting the CE manufacturer directly for assistance and/ or repair information.
- In many cases, if the HOST is under warranty, the repair will be done at the customer's home. Contact Point : Jong Gyu Kim (jongkim@ lge. com, 1-847- 941- 8828) Vice-President, Zenith R& D center. Jong Hoon Lee (jonghoon. lee@ zenith. com, 1- 847- 941- 8774) Engineer, Zenith R& D center.
9. If using a STB will allow the customer to receive services on the damaged DCR device, the installer can leave a box in the customer's home until the customer resolves the issue with the CE manufacturer.
10. If the technician is able to install the CableCARD device and access the User Interface screen (also referred to as MMI screen), and has relayed the information to the dispatcher, but is still not receiving encrypted programming, this programming may be protected through the use of copy protection directive. Ensure that the information passed to dispatch is correct. Relay again the Host ID, CableCARD ID and Data ID (Motorola only). Dispatch will send a hit to the CableCARD once the information is checked and verified. The CableCARD must be paired to the Host before copy protected programming can be displayed. Note that it may take several minutes from the time dispatch sends the authorization before it reaches the DCR device. The MMI screens should be checked to verify if the authorization has been received. For SA systems the host- pod pairing screen should say "Authorization Received." For Motorola the Conditional Access MMI State parameter should say "Subscribed".
- (These should be verified by POD Manufacturers or cable companies.)
11. To confirm the Headend Validation for displaying the encrypted channel, the technician should check the CableCARD menu. For SA systems, the CableCARD Copy Protection Information menu should say "Authorization Received". For Motorola systems, the Conditional Access menu should say "Valid xx (2 digit)".
12. If encrypted programming is still not displayed, installer should check the status of followings.
- Cable Channel List : Ready
 - CableCard : Inserted
 - FDC status (OOB Status) : Lock
 - SNR(Signal to Noise Ratio) : higher than 12 dB is normal range.
- Below table describes how to check above status in LG DCR TV.

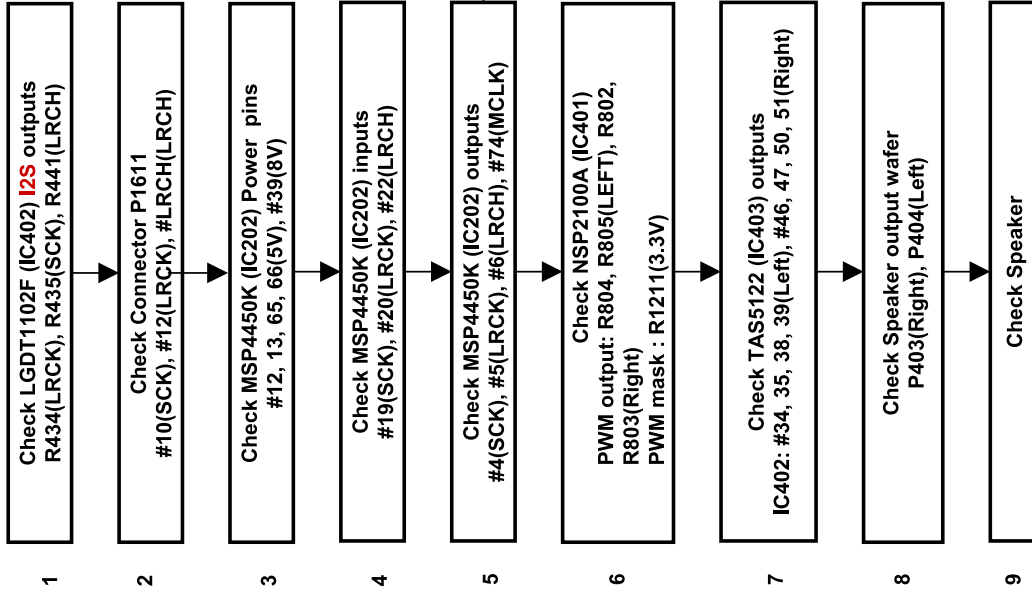
Cabl eCARD Mfg	Diagnostic Type	1st key	2nd key	3rd key	4th key	5th Key
ALL - works with any	Host D i agno st i cs (In Band Si gnal Status,	MENU	Use cursor to select	Press button 0	Press button 0	Press button 0
Cabl eCARD	OOB Signal Status, etc)		CABLE icon	(zero)	(zero)	(zero)

AUDIO PATH



COMMON SOUND OUT

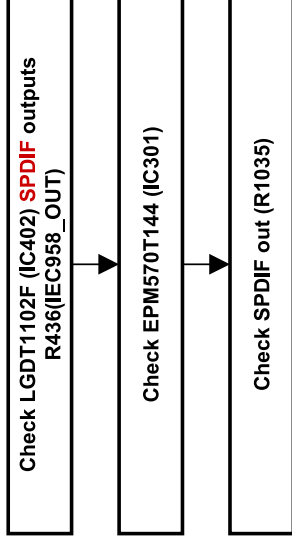
ANALOG OUT



MONITOR OUT

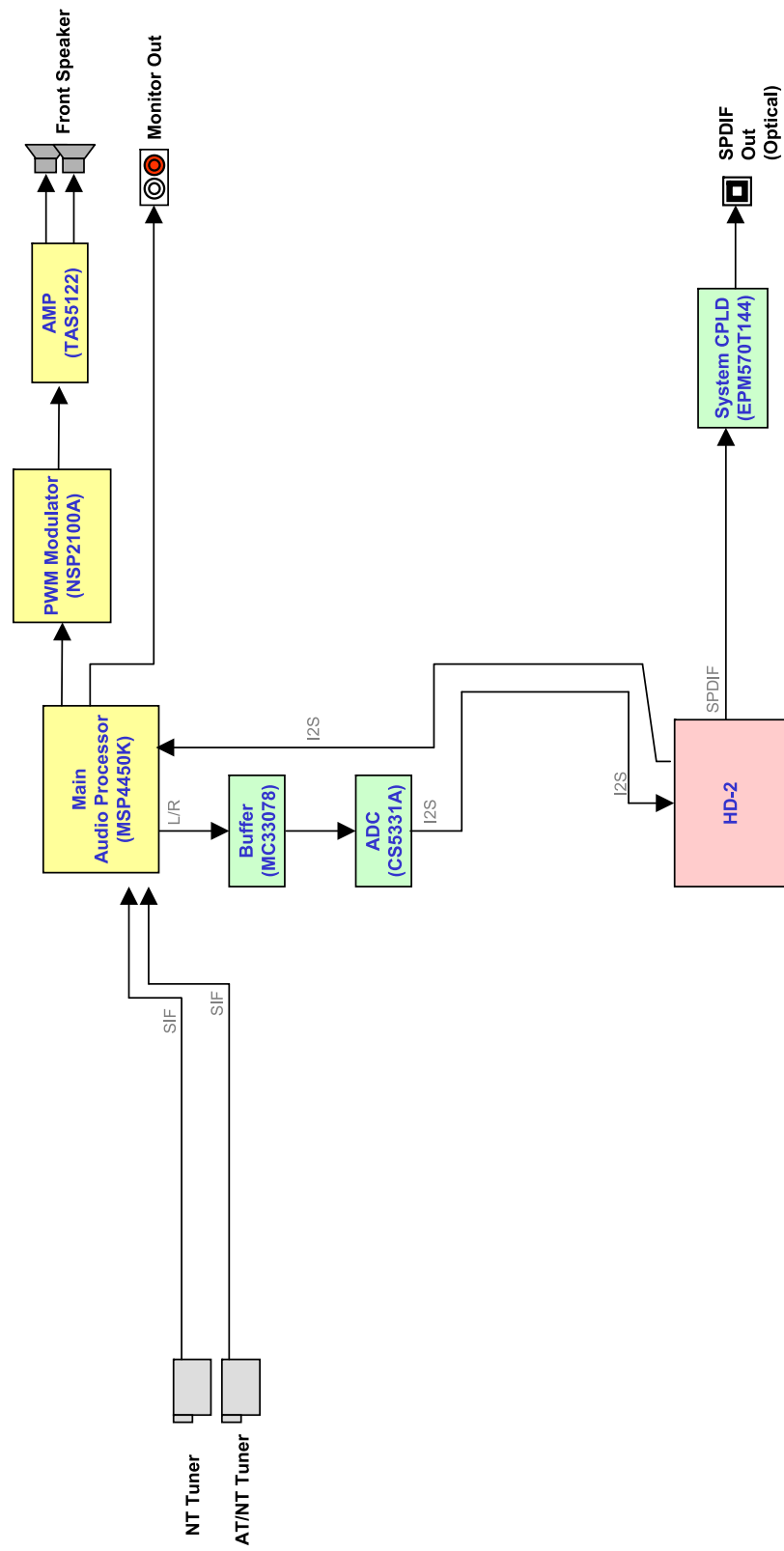


DIGITAL OUT

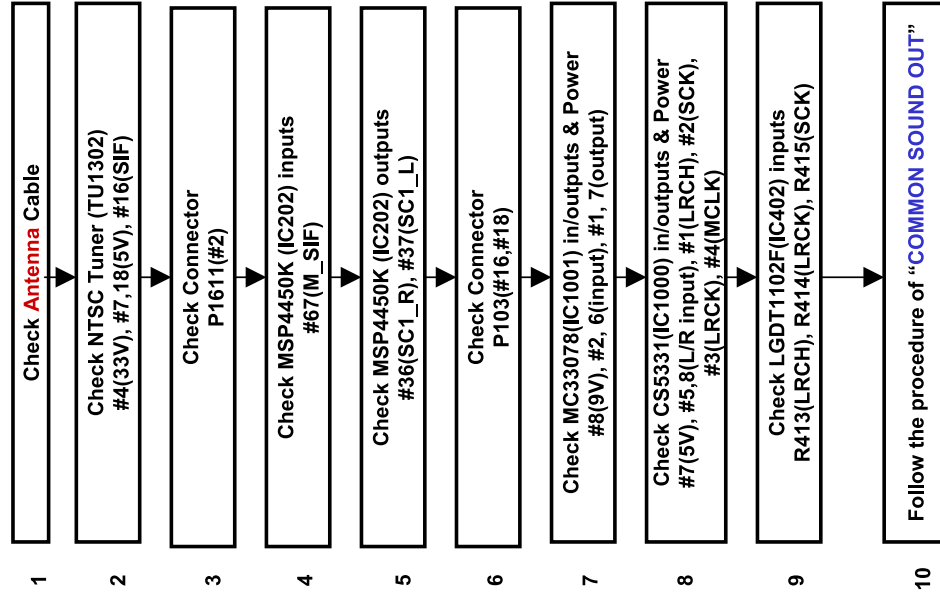


AUDIO TROUBLESHOOTING & BLOCK DIAGRAM

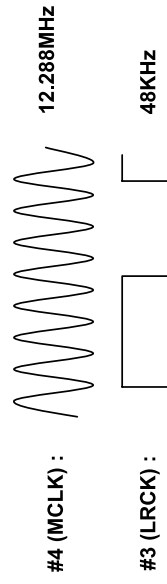
TV RF NO SOUND



TV RF NO SOUND

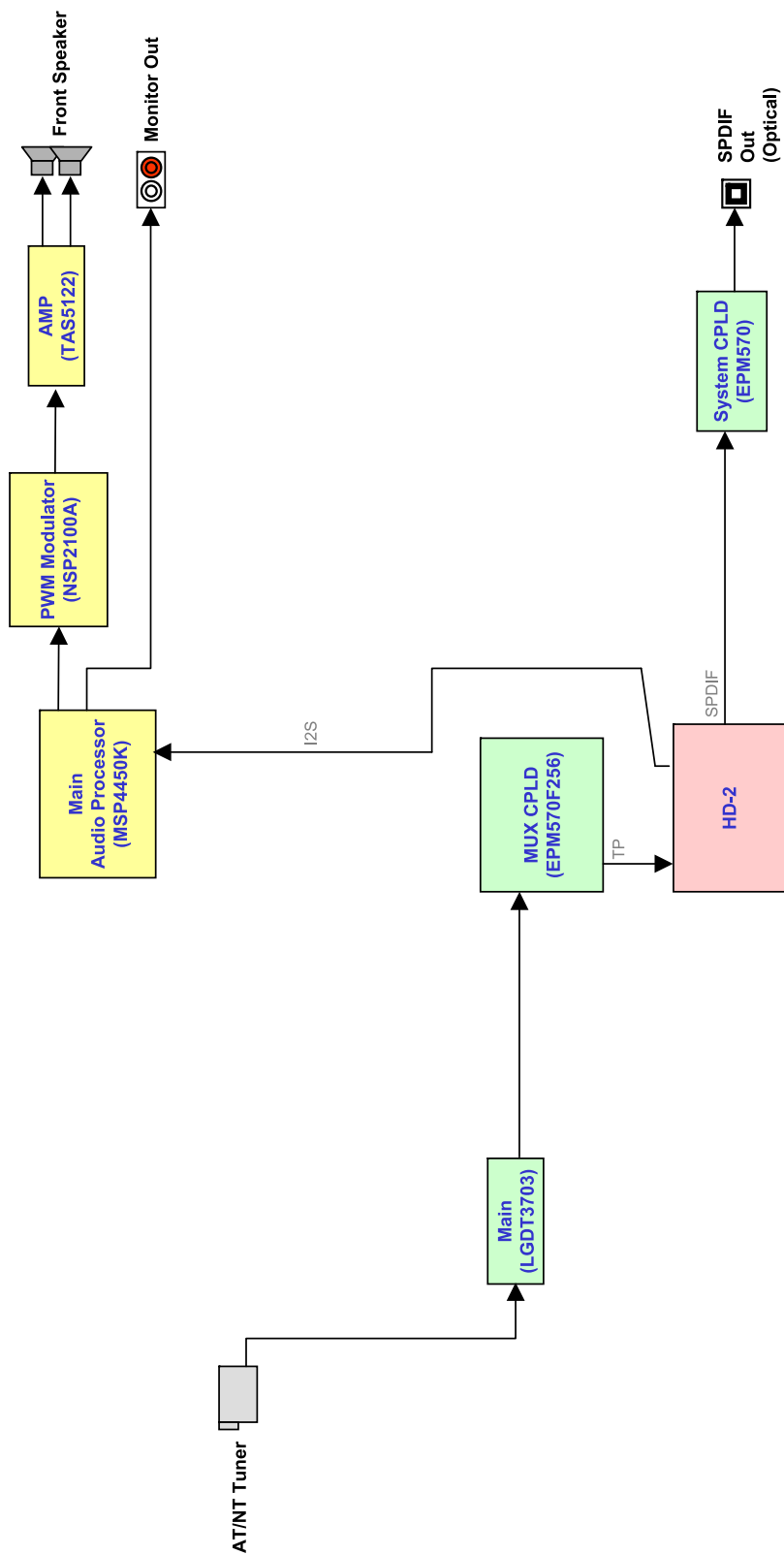


#36 (SCL_R), 37 (SCL_L) : Not "0" Voltage Level, Analog signal

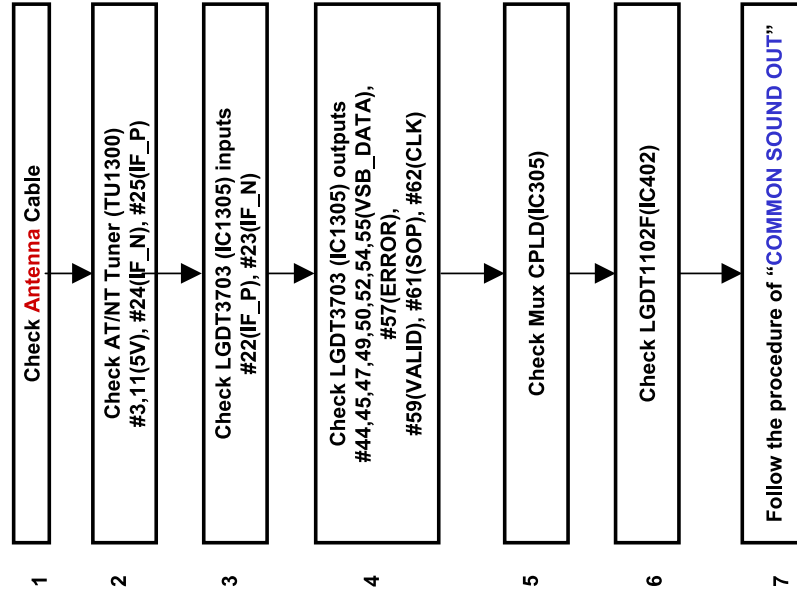


#1 (LRCH) : Not "0" Voltage Level

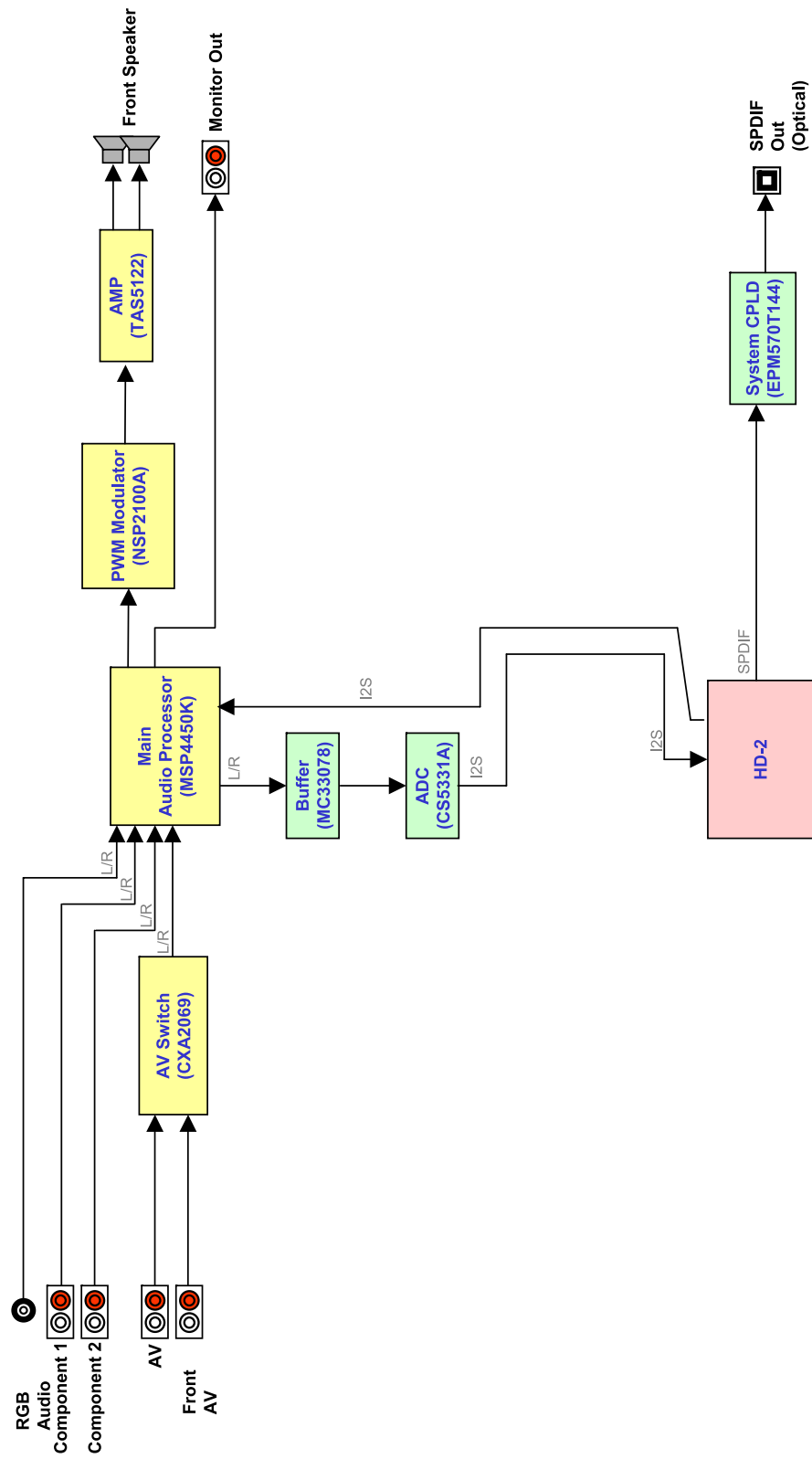
DTV NO SOUND



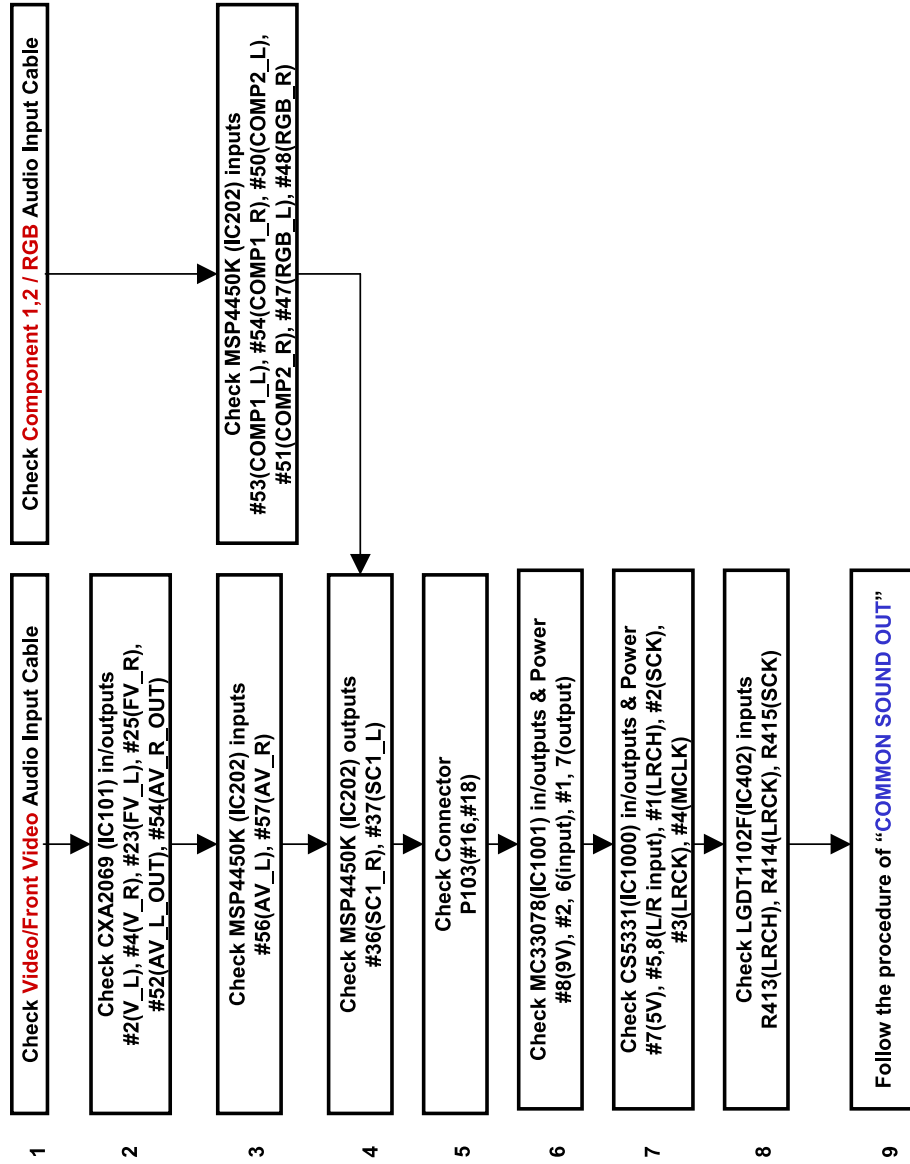
DTV NO SOUND



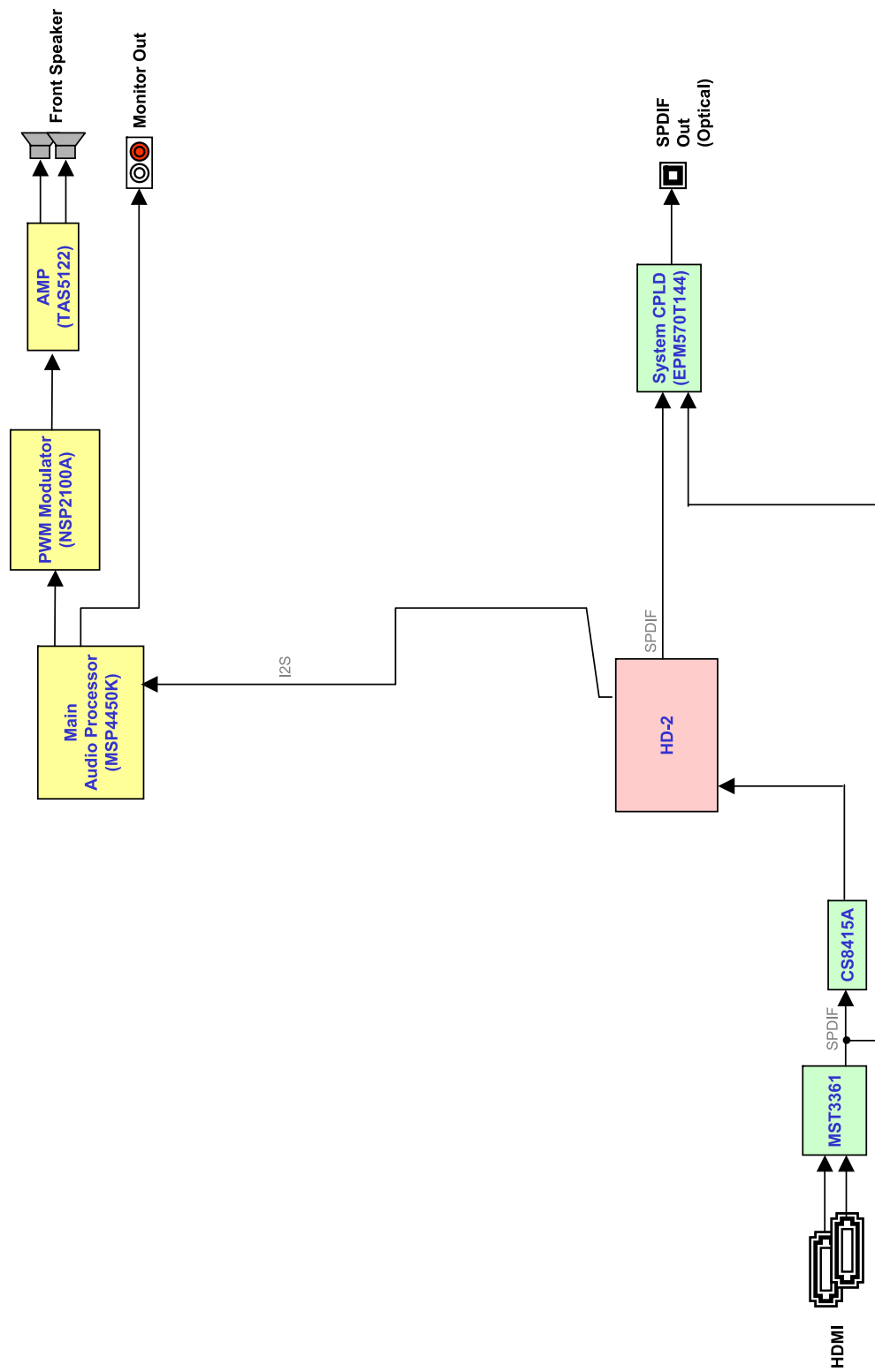
AV/COMPONENT/RGB NO SOUND



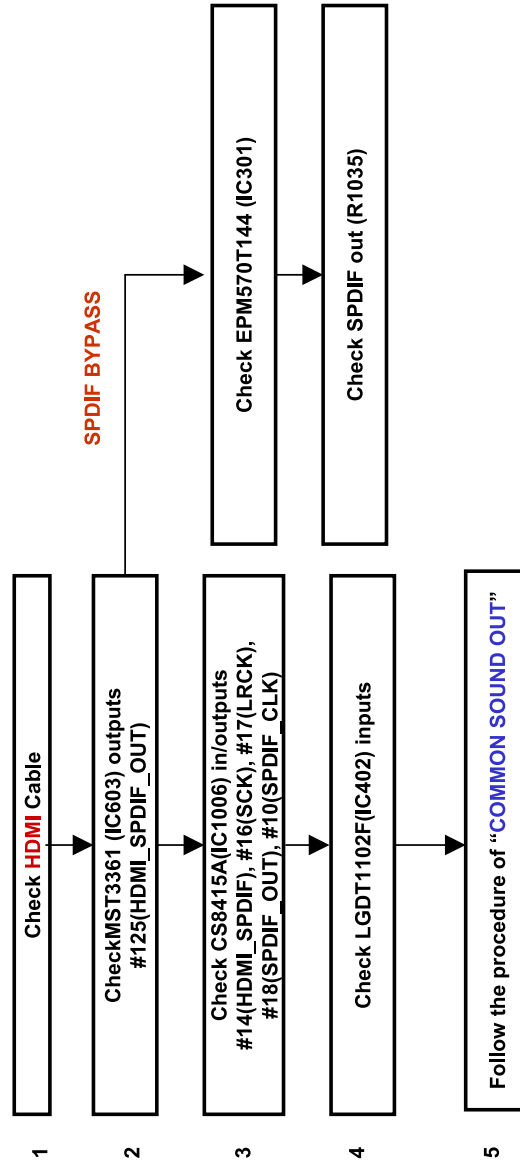
AV/COMPONENT/RGB NO SOUND



HDMI NO SOUND



HDMI NO SOUND



Hardware Test by using Terminal

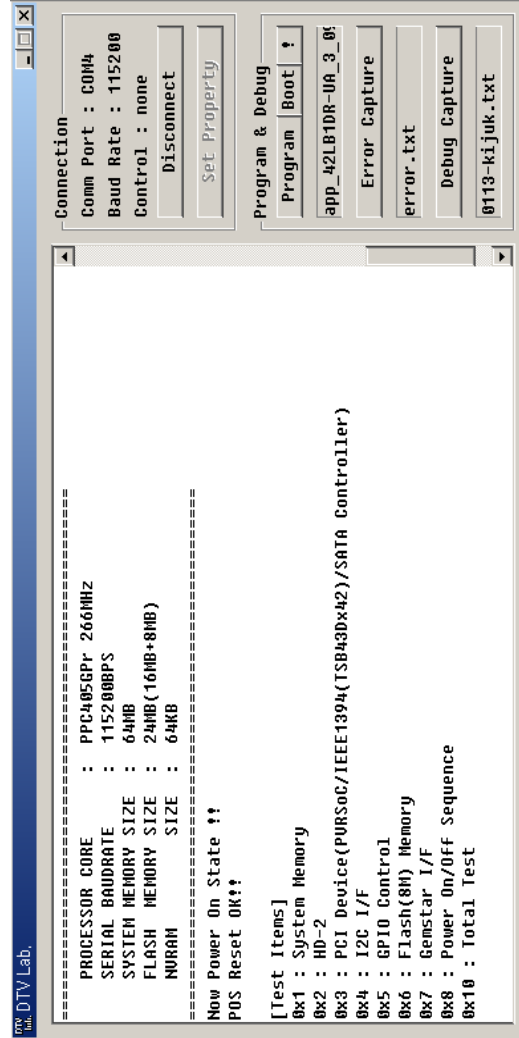
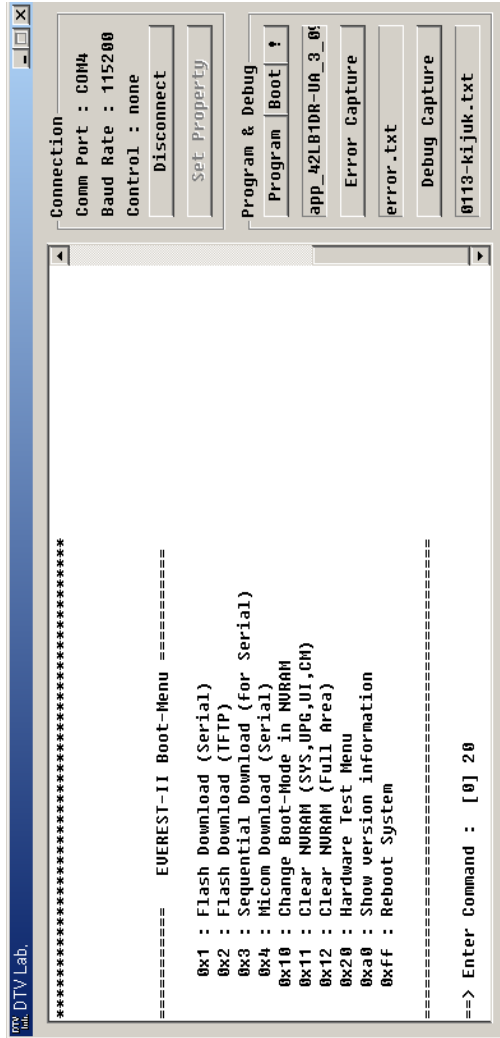
Start the terminal program (Tera terminal, DTV Lab)

1 : Press PC keyboard number 1

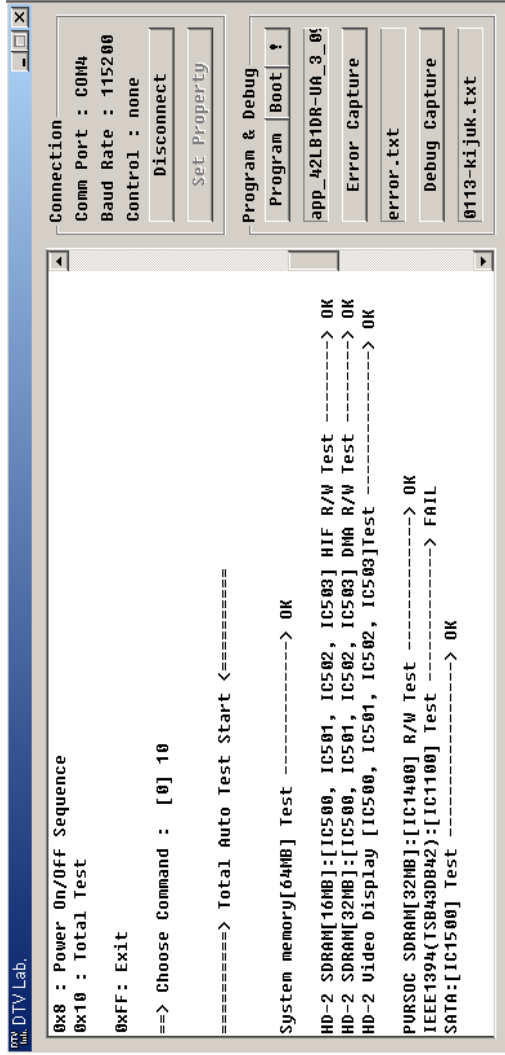
2 : AC OFF/ON or Push the Reset SW

3 : Enter the command 20 (Hardware test Menu)

Select the Total Test



Hardware Test by using Terminal



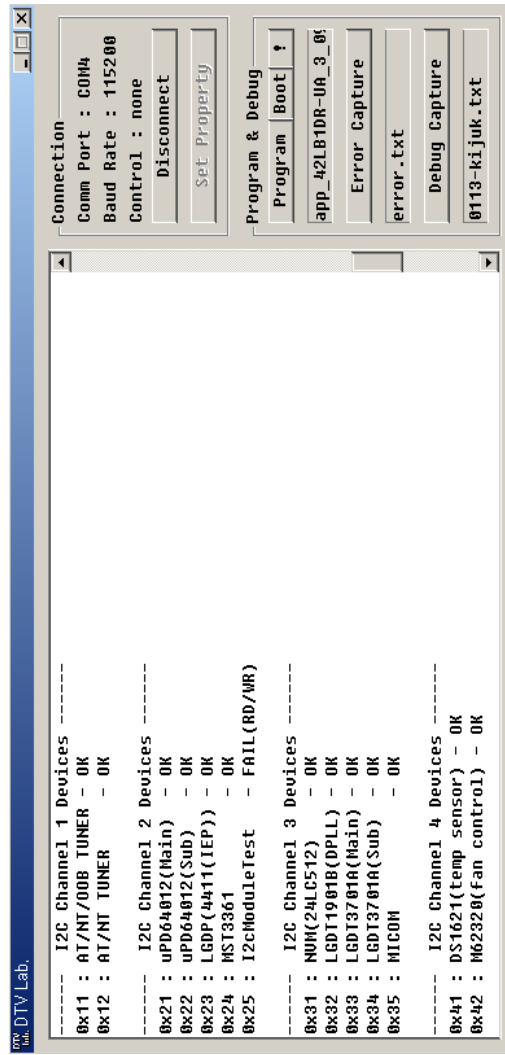
Testing procedure showed

Watch out !! Your TV System Specification

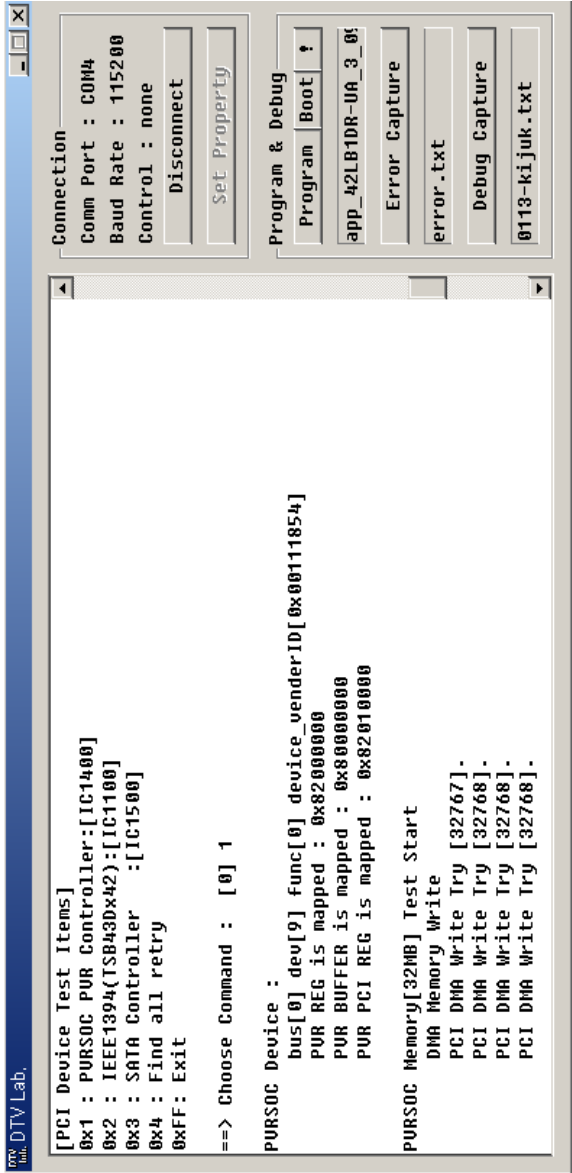
If your model is North America Model ,
does not include IEEE1394

If your model is LCD Model ,
does not include I2CModuleTest

Check the FAIL Components (Memory, PCI IC, IIC)



Hardware Test by using Terminal



[Test Items]

0x1 : System Memory

0x2 : HD-2

0x3 : PCI Device(PVRSoc/IEEE1394(TSB43Dx42)/SATA Controller)

0x4 : I2C I/F

0x5 : GPIO Control

0x6 : Flash(8M) Memory

0x7 : Gemstar I/F

0x8 : Power On/Off Sequence

0x10 : Total Test

0xFF: Exit

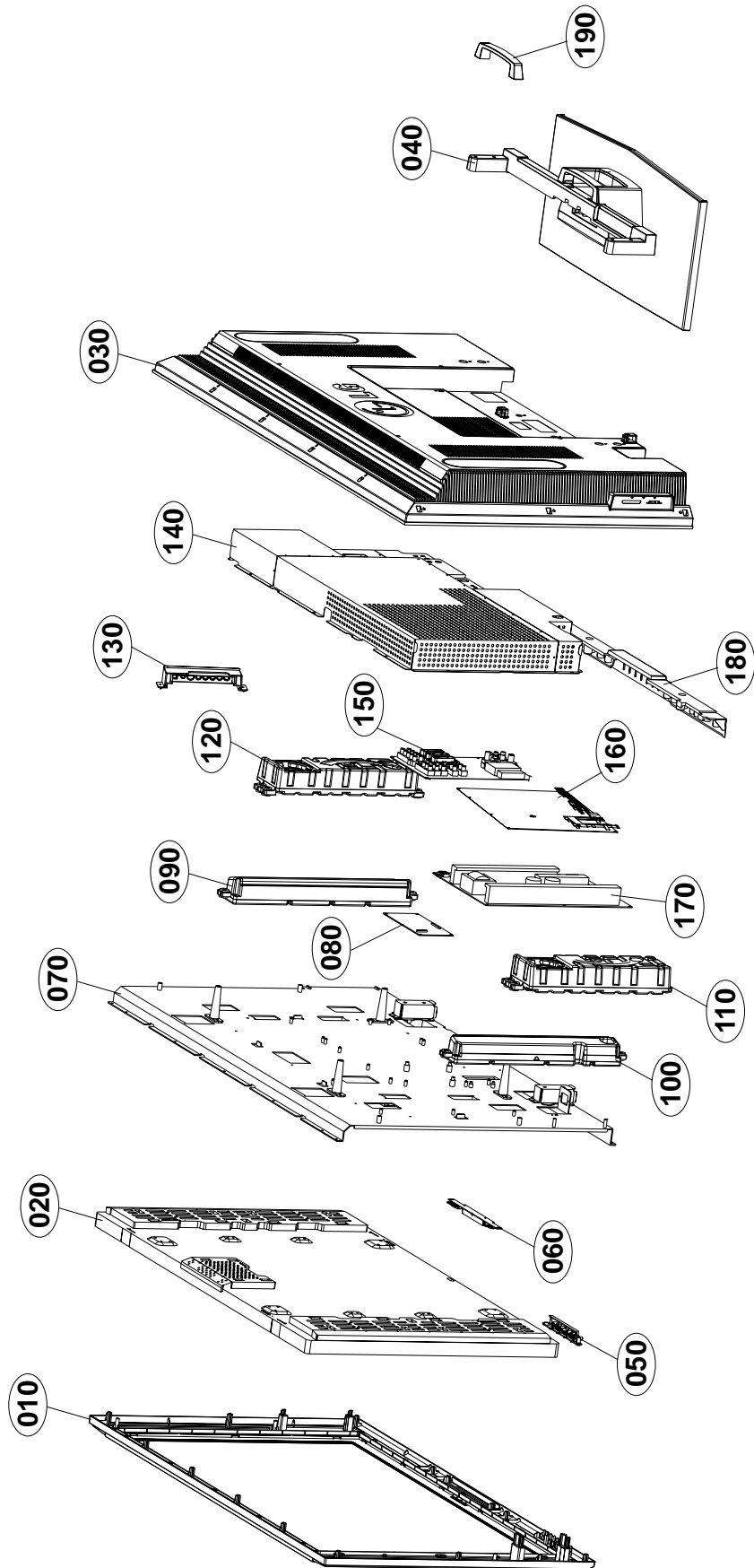
==> Choose Command : [0] 3

If you want to check more detail PCI IC's





Choose command 3 PCI Device (PVRSoc) /SATA Controller)

Other Test Items can be easily use such as upper example.

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.		PART NO.	DESCRIPTION
010		30919E0042G	Cover Assembly, 47LB1DA-UB(CKD) LP62H 47" C/A ASSY FOR SET
		30919E0042B	Cover Assembly, 47LB1DA-UB LA61C 47" .
020		EAJ31412401	LCD,Module-TFT, LC470WU1-SLA1 FULLHD 47INCH 1920X1080 550CD COLOR 72% 16/9 800vs1 P7 Factory
030		3809900160E	Cover Assembly, 47LB1DA-UB LA61C 47" FOR CKD(MX)
		3809900160B	Cover Assembly, 47LB1DA-UB LA61C 47" .
040		3043900027C	Base Assembly, STAND 47LB1R-ZH(CKD) LP62H BLACK
		3043900027A	Base Assembly, 47LB1 . .
050		EBR30403401	PCB Assembly,Sub, SUB T.T LA61B 47LB1DA-UB ALL CONTROL KEY TOTAL ASSY
060		EBR30403501	PCB Assembly,Sub, SUB T.T LA61B 47LB1DA-UB ALL INDEX TOTAL ASSY
070		AGU30990804	Plate Assembly, ASSY METAL MAIN FRAME(47LB1,UB,CKD)
		AGU30990801	Plate Assembly, ASSY METAL MAIN FRAME(47LB1)
080		EBR30366601	PCB Assembly,Sub, SUB T.T LA61B 47LB1DA-UB ALL DE-INTERACE B/D
090		6401900127F	Speaker Assembly, 47LB1 SIDE LEFT(400MM)
100		6401900127E	Speaker Assembly, 47LB1 SIDE RIGHT(1900MM)
110		EAB30830301	Speaker,Woofer, K7040303/4 FERRITE 15W 8OHM 80DB 120HZ . LUG EXA E&C
120		EAB30830301	Speaker,Woofer, K7040303/4 FERRITE 15W 8OHM 80DB 120HZ . LUG EXA E&C
130		EBR30402901	PCB Assembly,Sub, SUB T.T LA61B 47LB1DA-UB ALL SIDE A/V TOTAL
140		AGU30678503	Plate Assembly, SHIELD METAL,MAIN(47LB1DA-UB,CKD)
		AGU30678502	Plate Assembly, SHIELD METAL,MAIN(47LB1DA-UB)
150		EBR30363701	PCB Assembly,Sub, MAIN2 T.T LA61B 47LB1DA-UB ALL Analog B/D TOTAL
160		EBU30309001	Main Total Assembly, 47LB1DA-UB BRAND LA61B-digital
170		6709900018B	Power Supply Assembly, 4655E FREE H3/E2 LCD LCD YY LB LC 47INCH
180		4810900029A	Bracket, MOLD ABS REAR AV 47LB1D SP02PC ABS (47)
190		4810900041A	Bracket, MOLD ABS SUPPORTER 47LB1D AB00EA ABS CABLE MANAGEMENT

REPLACEMENT PARTS LIST

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN, CH : Ceramic
CQ : Polyester
CE : Electrolytic
CF : Fixed Film

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RH : CHIP, Metal Glazed(Chip)
RR : Drawing

DATE: 2006. 10. 09.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
DIGITAL BOARD				
CAPACITOR				
		C100	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C1001	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C1002	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C1005	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C1012	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C1014	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C1015	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C1022	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1032	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1045	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C1100	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C1105	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C1107	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C1115	0CE335WK6D8	MVK4.0TP50VC3.3M 3.3uF 20%
		C1209	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1216	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1218	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C123	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C126	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1320	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C1324	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1325	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1326	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1332	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C1334	0CE476WK6DC	MVK8.0TP50VC47M 47uF 20% 50
		C1341	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1342	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C1345	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C1348	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1349	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1358	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1359	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1360	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1361	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1604	0CE337WJ6D8	MVK12.5TP35VC330M 330uF 20%
		C1607	0CE477WF6DC	MVK10TP16VC470M 470uF 20% 1
		C1608	0CE477WF6DC	MVK10TP16VC470M 470uF 20% 1
		C1613	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1616	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1623	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C1627	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1638	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1640	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1641	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C216	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C230	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C3039	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C304	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C3041	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C3077	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C3078	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C308	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C401	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C404	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C461	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C463	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C481	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C482	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C528	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C531	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C534	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C601	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16

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		C608	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C613	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C617	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C619	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C621	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C623	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C627	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C629	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C637	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C653	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C655	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C666	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C668	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C7002	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C7005	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C702	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C703	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C7043	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C7046	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C7048	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C7049	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C7052	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C7053	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C7054	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C709	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C737	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C773	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C774	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C780	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C801	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C803	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C806	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C807	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C810	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C813	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C815	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C822	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C827	0CE336WH6D8	MVK6.3TP25VC33M 33uF 20% 25
		C838	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C840	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C1004	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1006	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1007	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1011	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1017	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C1020	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1030	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1044	0CK472CK56A	0603B472K500CT 4.7nF 10% 50
		C1047	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1048	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C105	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C106	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1061	0CC150CK41A	C1608C0G1H150JT 15pF 5% 50V
		C1062	0CC150CK41A	C1608C0G1H150JT 15pF 5% 50V
		C107	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C108	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C109	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C110	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1102	0CK392CK56A	C1608X7R1H392KT 3.9nF 10% 5
		C1103	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1106	0CC561CK41A	C1608C0G1H561JT 560pF 5% 50
		C111	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1112	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C1113	0CK102CK56A	0603B102K500CT 1nF 10% 50V
		C1114	0CK104CK56A	0603B104K500CT 100nF 10% 50

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C3029	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C303	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3030	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3031	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3032	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3033	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3034	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3035	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3036	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3037	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3038	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3040	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3042	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3043	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3045	0CC100CK41A	C1608C0G1H100JT 10pF 5% 50V
		C3047	0CC100CK41A	C1608C0G1H100JT 10pF 5% 50V
		C305	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C306	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C307	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C3079	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C3080	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C3081	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C309	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C310	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C311	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C313	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C314	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C315	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C320	0CH2334F566	0805B334K160CT 330nF 10% 16
		C325	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C329	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C330	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C331	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C332	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C333	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C334	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C335	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C336	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C337	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C338	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C339	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C340	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C341	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C342	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C343	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C344	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C345	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C346	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C347	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C351	0CC470CK41A	C1608C0G1H470JT 47pF 5% 50V
		C352	0CC470CK41A	C1608C0G1H470JT 47pF 5% 50V
		C402	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C403	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C405	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C406	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C407	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C408	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C409	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C410	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C411	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C412	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C413	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C414	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C415	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C416	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C417	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C418	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C419	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C420	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C421	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C422	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C423	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C424	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C425	0CK104CK56A	0603B104K500CT 100nF 10% 50

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C511	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C517	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C518	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C522	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C526	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C529	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C530	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C532	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C535	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C537	OCK100CK41A	C1608C0G1H100JT 10pF 5% 50V
		C538	OCK270CK41A	C1608C0G1H270JT 27pF 5% 50V
		C542	OCK150CK41A	C1608C0G1H150JT 15pF 5% 50V
		C631	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C632	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C633	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C640	OCK470CK41A	C1608C0G1H470JT 47pF 5% 50V
		C644	OCK473CH56A	C1608X7R1E473KT 47nF 10% 25
		C646	OCK102CK56A	0603B102K500CT 1nF 10% 50V
		C647	OCK473CH56A	C1608X7R1E473KT 47nF 10% 25
		C649	OCK473CH56A	C1608X7R1E473KT 47nF 10% 25
		C654	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C656	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C659	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C667	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C672	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C7001	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C7003	OCK474CH94A	0603F474Z250CT 470nF -20TO+
		C7006	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C7007	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C7028	OCK180CK41A	C1608C0G1H180JT 18pF 5% 50V
		C7029	OCK180CK41A	C1608C0G1H180JT 18pF 5% 50V
		C708	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C711	OCK103CK56A	0603B103K500CT 10nF 10% 50V
		C718	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C719	OCK103CK56A	0603B103K500CT 10nF 10% 50V
		C720	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C725	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C729	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C730	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C731	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C732	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C733	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C734	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C735	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C779	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C781	OCK103CK56A	0603B103K500CT 10nF 10% 50V
		C784	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C789	OCK103CK56A	0603B103K500CT 10nF 10% 50V
		C794	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C797	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C798	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C799	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C802	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C804	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C808	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C828	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C842	OCK104CK56A	0603B104K500CT 100nF 10% 50
		C844	OCK104CK56A	0603B104K500CT 100nF 10% 50
DIODES				
		D601	ODD184009AA	KDS184 KDS184 TP KEC - 85V
		D602	ODD184009AA	KDS184 KDS184 TP KEC - 85V
		D302	ODRSE00038A	SDC15 1.3V 14.3VTO16.4V 21.
		D303	ODRSE00038A	SDC15 1.3V 14.3VTO16.4V 21.
		D600	ODRSE00048A	RLCAMP0504M 1.2V 6V 25V 12A
		D603	ODRSE00048A	RLCAMP0504M 1.2V 6V 25V 12A
		D604	ODRSE00048A	RLCAMP0504M 1.2V 6V 25V 12A
		D605	ODRSE00048A	RLCAMP0504M 1.2V 6V 25V 12A
		D1300	ODS113379BA	1SS133 1.2V 90V 400MA 600MA
IC				
		IC1000	OICB533100A	CS5331A-KSR 4.75TO5.25V 48K

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		IC603	OIPRP00696A	MST3361M-LF-110 3.3V 2.5V 0
		IC203	OIMCRCY002A	CY2309SXC-1HT 3TO3.6V - - -
		IC206	OIMCRPH026B	PA9516APW 0.5TO7.0 - - 0W 3
		IC210	OIMCRCY002A	CY2309SXC-1HT 3TO3.6V - - -
		IC504	OIMCRCY002A	CY2309SXC-1HT 3TO3.6V - - -
		IC100	OIPRPBM001B	PPC405GPR-3JB266C 1.7TO1.9V
		IC1101	OISTL00024A	MC14053BDR2G 3TO18V 0.02mA
		IC1202	OIMCRFA013A	74LCX244MTC 2TO3.6V 0.01mA
		IC303	OIMCRFA013A	74LCX244MTC 2TO3.6V 0.01mA
		IC306	OISTLPH026A	74LVC14APW 1.2TO3.6V 0.01mA
		IC1102	OIPMGNS026A	LM311MX 5V +-15V +-30V 50NA
		IC1305	OICTM00006B	LGDT3703D 3.0TO3.6V 770mA 2
		IC209	OIMCRAL021A	AT24C512W-10SU-2.7 512KBIT
		IC604	OIMMRCS012B	CAT24WC08W-T(MST3000) 8KBIT
		IC605	OIMMRAL014D	AT24C02BN-10SU-1.8 2KBIT 25
		IC606	OIMMRAL014D	AT24C02BN-10SU-1.8 2KBIT 25
		IC1603	OIMI623200B	M62320FP 4.5TO5.5V 0.05mA 4
		IC610	OIPRPFA016A	FMS6407MTC20X-NL(PB) 4.75VT
		IC702	OIPRPFA015B	"FMS6400CS1X,LF 4.75VTO5.25V"
		IC704	OIPRPFA015B	"FMS6400CS1X,LF 4.75VTO5.25V"
		IC1003	OIPMGKE032A	KIA78R09F 10TO25V 9V 8W DPA
		IC101	OIPMG00049A	AZ1117H-1.8TR/E1[H13A] 3.2T
		IC1201	OIMCRSJ001B	SC1565IST-2.5TR 2.2TO5V 2.5
		IC1300	OIPMG78403A	AZ1086S-1.8TRE1 3.2TO10V 1.
		IC1301	OIPMG00049A	AZ1117H-1.8TR/E1[H13A] 3.2T
		IC1307	OIPMGA0010A	AZ1117H-3.3 4.75TO10V 3.3V
		IC1607	OIPMGKE032A	KIA78R09F 10TO25V 9V 8W DPA
		IC401	OIPMG78403A	AZ1086S-1.8TRE1 3.2TO10V 1.
		IC403	OIPMGA0010A	AZ1117H-3.3 4.75TO10V 3.3V
		IC601	OIPMGA0010A	AZ1117H-3.3 4.75TO10V 3.3V
		IC609	OIMCRSJ001B	SC1565IST-2.5TR 2.2TO5V 2.5
		IC707	OIPMGA0010A	AZ1117H-3.3 4.75TO10V 3.3V
		IC708	OIPMG00028A	AZ1117H-1.5TRE1 3TO10V 1.5V
		IC801	OIPMGA0010A	AZ1117H-3.3 4.75TO10V 3.3V
		IC802	OIPMG78403A	AZ1086S-1.8TRE1 3.2TO10V 1.
		IC1100	OIMCRMT003A	MM1108XFFE 4.5TO5.5V 4.4mA
		IC1103	OIMCRMP006A	PIC18F1220T-I/SO 4.2TO5.5V
		IC1306	OICTM00006C	LGDT3703B 0 0A OHZ TQFP TR
		IC402	OICTMLG009F	LGDT1102F-FHD 0.5TO4.6 0A 2
		IC204	OIMMRAM006B	S29JL064H-90TA100 64MBIT 4M
		IC205	OIMMRAM006B	S29JL064H-90TA100 64MBIT 4M
		IC207	OIMMRMR027E	MX29LV320CTTC-70G 32MBIT 4M
		IC208	OIMMRMR027E	MX29LV320CTTC-70G 32MBIT 4M
		IC1001	OISTL00029A	MC33078DR2G +-5TO+-18V 2mV
		IC301	OIPRP00687A	EPM570T144C5N 3TO3.6V 2.375
		IC305	OIPRP00687B	EPM570F256C5N 3TO3.6V 2.375
		IC505	OICTMLG013B	"LGDT1901B 3.6VTO3V,0VTO0V,0"
		IC1204	OIPRPML004B	"MIC2562A-0YM,LF 3.3V 5V 0 8"
		IC1205	OIPRPML004B	"MIC2562A-0YM,LF 3.3V 5V 0 8"
		IC1006	OICB841500B	"CS8415A-CZR 4.5VTO5.5V,2.85"
		IC201	OIMMRHY038E	Y57V561620CTP-H 256MBIT 4MX
		IC202	OIMMRHY038E	Y57V561620CTP-H 256MBIT 4MX
		IC500	OIMMR00141A	HY57V641620ETP-6 64MBIT 1MX
		IC501	OIMMR00141A	HY57V641620ETP-6 64MBIT 1MX
		IC502	OIMMR00141A	HY57V641620ETP-6 64MBIT 1MX
		IC503	OIMMR00141A	HY57V641620ETP-6 64MBIT 1MX
		IC703	OIMMR00080A	HY57V161610ETP-6 16MBIT 512
		IC706	OIMMR00080A	HY57V161610ETP-6 16MBIT 512
		IC1200	OICTMLG017A	"LGDT3502B 3VTO3.6V,2.25VTO2"
		IC304	OIPRP00009A	ICL3232CBNZ 3VTO5.5V - SSOP
		IC803	OIMCRTH002A	THC63LVD103 3VTO3.6V 1W TQF
		IC701	OIPRPNE011B	"UPD64015AGM-UEU-A,LF 3VTO3."
		IC705	OIPRPNE011B	"UPD64015AGM-UEU-A,LF 3VTO3."
		IC804	OICTMLG018C	"IEP3 LGDP4412 300MVT05.5V,0"
		IC302	OIKE702900G	KIA7029AF -0.3TO15V 2.9V 50
		IC1304	OIPMGON013B	MC34063ADR2G 3TO40V 40V 625
		IC1302	OIMCRSH001A	PQ05DZ1U 6TO16V 5V 8W D2PAK
		IC1601	OIMCRSH001A	PQ05DZ1U 6TO16V 5V 8W D2PAK
COIL & CORE & INDUCTOR				
		L1601	6140VB0004B	LN-15A1 26uH AC500V 5MA 12X
		L1602	6140VB0004B	LN-15A1 26uH AC500V 5MA 12X

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		B200	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1100	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1301	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1303	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1308	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1311	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1312	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1315	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1316	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1317	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1318	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1319	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1325	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1326	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1327	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1606	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1608	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1609	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L301	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L401	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L402	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L403	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L404	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L601	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L602	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L603	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L604	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L605	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L606	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L607	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L608	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L612	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L701	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L702	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L703	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L704	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L705	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L706	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L707	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L803	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L804	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L805	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L806	0LCML00003B	MLB-201209-0120P-N2 120OHM
		R1650	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1690	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		B116	0LCML00003B	MLB-201209-0120P-N2 120OHM
		B201	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1200	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1201	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L1605	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L501	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L503	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L504	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L611	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L801	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L802	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L807	0LCML00003B	MLB-201209-0120P-N2 120OHM
		L808	0LCML00003B	MLB-201209-0120P-N2 120OHM
		R1600	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1604	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1605	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1613	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1614	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1643	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1644	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1660	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R1661	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R203	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R204	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R244	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		L1000	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L1001	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L1003	0LCML00020C	MLI-201212-100K 10UH 10% -
		L1005	0LCML00020C	MLI-201212-100K 10UH 10% -

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		L1304	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L1305	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L1306	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L1322	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L1323	0LCML00020B	MLI-201209-6R8K 6.8UH 10% 0
		L100	0LC0233002A	FI-B2012-332KJT 3.3UH 10% -
		L1309	0LC6461201A	D75C-646CY-121M=P3 120UH 20
		L505	0LCML00020D	MLI-201212-220K 22UH 10% -
TRANSISTOR				
		Q1600	0TFV180067A	SI3865BDV(E3) N-CHANNEL MOS
		Q1602	0TFV180067A	SI3865BDV(E3) N-CHANNEL MOS
		Q1603	0TFV180067A	SI3865BDV(E3) N-CHANNEL MOS
		Q603	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q604	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q608	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q609	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q802	0TF492509AA	SI4925DY P-CHANNEL -30V +2
		Q1100	0TR387500AA	2SC3875S(ALY) NPN 5V 60V 50
		Q1300	0TR387500AA	2SC3875S(ALY) NPN 5V 60V 50
		Q1301	0TR387500AA	2SC3875S(ALY) NPN 5V 60V 50
		Q1302	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q1303	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q1305	0TR387500AA	2SC3875S(ALY) NPN 5V 60V 50
		Q1309	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q1311	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q1312	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q801	0TR387500AA	2SC3875S(ALY) NPN 5V 60V 50
		Q1101	0TR3906S-RDK PNP -5V -40V -4	2N3906S-RDK PNP -5V -40V -4
		Q500	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q501	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q601	0TR102009AJ	KRC102S NPN 30V 0V 50V 100M
		Q602	0TR102009AJ	KRC102S NPN 30V 0V 50V 100M
		Q605	0TR102009AJ	KRC102S NPN 30V 0V 50V 100M
		Q610	0TR102009AJ	KRC102S NPN 30V 0V 50V 100M
		Q701	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q702	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q705	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
		Q707	0TR387500AA	2SC3875S(ALY) NPN 5V 60V 50
		Q708	0TR150400BA	2SA1504S(ASY) PNP -5V -50V
RESISTORS				
		AR116	0RJ4701C687	RCA86TRJ4K70 4.7KOHM 5% 1/1
		AR117	0RJ4701C687	RCA86TRJ4K70 4.7KOHM 5% 1/1
		AR118	0RJ4701C687	RCA86TRJ4K70 4.7KOHM 5% 1/1
		AR1300	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR1302	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR1304	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR300	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR301	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR302	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR303	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR304	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR305	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR306	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR307	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR308	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR309	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR310	0RJ0222C687	RCA86TRJ22R0 22OHM 5% 1/16W
		AR400	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR401	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR402	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR403	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR404	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR405	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR406	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR407	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR408	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR500	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR501	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR502	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR503	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		AR504	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR505	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR506	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR507	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR508	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR509	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR510	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR511	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR512	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR513	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR514	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR515	0RJ0332C687	RCA86TRJ33R0 33OHM 5% 1/16W
		AR601	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR602	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR603	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR604	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR605	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR606	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR607	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR608	0RJ0000C687	RCA86TRJ0000 0OHM 5% 1/16W
		AR701	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR7013	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR7014	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR702	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR703	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR704	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR705	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR706	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR707	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR708	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR709	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR710	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR711	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR712	0RJ1000C687	RCA86TRJ100R 100OHM 5% 1/16
		AR801	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR802	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR803	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR804	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR805	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR806	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR807	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR808	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR809	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		R1302	ORD0331H609	RD-92T1J3R30 3.3OHM 5% 1/2W
		R1634	ORD0332H609	RD-92T1J3R30 33OHM 5% 1/2W
		R1009	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1010	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1011	0RJ4702D677	MCR03EZPJ473 4.7KOHM 5% 1/10
		R1012	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1013	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1023	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R1029	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R103	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1030	0RJ1201D677	MCR03EZPJ122 1.2KOHM 5% 1/1
		R1031	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1032	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R104	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R107	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1102	0RJ8252D477	MCR03EZPF8252 82.5KOHM 1% 1
		R1103	0RJ0152D677	MCR03EZPJ150 15OHM 5% 1/10W
		R1105	0RJ1003D477	MCR03EZPF104 100KOHM 1% 1/1
		R1107	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1111	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1112	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1115	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1116	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R112	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1121	0RJ0152D677	MCR03EZPJ150 15OHM 5% 1/10W
		R1122	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1123	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R1124	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1125	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R1126	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1127	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10

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		R1128	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1129	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1130	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1131	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1132	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R114	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R119	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R120	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1200	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1201	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1206	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R121	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R1212	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1213	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1215	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1219	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R122	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R123	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R124	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1241	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1242	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1247	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1248	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1249	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1252	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1260	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R1261	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R1263	0RJ1003D677	MCR03EZPJ104 100KOHM 5% 1/1
		R1264	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1266	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1268	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1269	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R127	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1290	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1292	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1297	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1299	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1300	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1301	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1305	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1306	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1307	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1308	0RJ1201D677	MCR03EZPJ122 1.2KOHM 5% 1/1
		R1309	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R131	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1310	0RJ1201D677	MCR03EZPJ122 1.2KOHM 5% 1/1
		R1311	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1313	0RJ1800D677	MCR03EZPJ181 180OHM 5% 1/10
		R1314	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1315	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1316	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R1317	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R1318	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1322	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R1323	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1324	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1329	0RJ1201D677	MCR03EZPJ122 1.2KOHM 5% 1/1
		R1330	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1333	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1339	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R134	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1341	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R135	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R136	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1360	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		R1365	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1367	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1369	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1376	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1387	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R1391	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R140	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R142	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R146	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R147	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R149	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R150	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R152	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R153	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R154	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R155	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R156	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R158	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R159	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R160	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		R1616	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1617	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1618	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1619	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1620	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1621	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1622	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1641	0RJ1202D677	MCR03EZPJ123 12KOHM 5% 1/10
		R1642	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1696	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1805	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1806	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R200	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R201	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R212	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R213	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R219	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R220	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R223	0RJ1202D677	MCR03EZPJ123 12KOHM 5% 1/10
		R224	0RJ1202D677	MCR03EZPJ123 12KOHM 5% 1/10
		R230	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R231	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R235	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R236	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R300	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R3000	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R3001	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R3002	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R3003	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R301	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R3074	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R3075	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R3079	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R3080	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R3084	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R316	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R321	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R331	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R332	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R333	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R334	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R335	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R346	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R347	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R348	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R385	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R387	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R388	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R389	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R392	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R399	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R401	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R403	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R404	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R405	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R406	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R407	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R415	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R416	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R417	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R418	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R421	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R422	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R430	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R431	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R432	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R433	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R434	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R436	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R445	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R452	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R453	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R454	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R455	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R456	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R461	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R505	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R516	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R517	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R6010	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R6012	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R6013	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R6015	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R6016	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R6017	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R6018	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R6019	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R6057	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R6058	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R629	0RJ3900D677	MCR03EZPJ391 390OHM 5% 1/10
		R635	0RJ0682D677	MCR03EZPJ680 68OHM 5% 1/10W
		R638	0RJ0682D677	MCR03EZPJ680 68OHM 5% 1/10W
		R640	0RJ0682D677	MCR03EZPJ680 68OHM 5% 1/10W
		R641	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R642	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R643	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R646	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R647	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R650	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R654	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R658	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R660	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R664	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R679	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R680	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R703	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R714	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R715	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R716	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R717	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R718	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R719	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R720	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R724	0RJ6200D677	MCR03EZPJ621 620OHM 5% 1/10
		R730	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R737	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R738	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R739	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R745	0RJ3300D677	MCR03EZPJ331 330OHM 5% 1/10
		R756	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R757	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R758	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R759	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R760	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R761	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R762	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R763	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R764	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R765	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R766	0RJ6200D677	MCR03EZPJ621 620OHM 5% 1/10
		R770	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R781	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R782	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R783	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R784	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R785	0RJ2000D677	MCR03EZPJ201 200OHM 5% 1/10
		R800	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R818	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R825	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R832	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R845	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R847	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R848	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R849	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R850	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R865	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R866	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R867	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R868	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R869	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R874	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R877	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R878	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R896	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R897	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R898	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R9056	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		AR100	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR101	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR102	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR103	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR104	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR105	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR106	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR107	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR108	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR109	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR110	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR111	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR112	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR113	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR114	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		AR115	0RJ3001D605	MCR03EZPJ302 3KOHM 5% 1/10W
		R1001	0RJ1500D677	MCR03EZPJ151 150OHM 5% 1/10
		R1002	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1003	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R1004	0RJ2700D677	MCR03EZPJ271 270OHM 5% 1/10
		R1005	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1006	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1007	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1008	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R101	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1015	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R1016	0RJ2700D677	MCR03EZPJ271 270OHM 5% 1/10
		R1017	0RJ1500D677	MCR03EZPJ151 150OHM 5% 1/10
		R1018	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R102	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1024	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1027	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1028	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1033	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R1034	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1035	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R1038	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1039	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1040	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1041	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R105	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R106	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1104	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R1108	0RJ3303D677	MCR03EZPJ334 330KOHM 5% 1/1
		R1109	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R111	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1110	0RJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R1113	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R1114	0RJ2202D677	MCR03EZPJ223 22KOHM 5% 1/10
		R1117	0RJ8200D677	MCR03EZPJ821 820OHM 5% 1/10
		R1118	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R1119	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R1120	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1203	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R1207	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R1208	0RJ3002D677	MCR03EZPJ303 30KOHM 5% 1/10
		R1209	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1210	0RJ1004D677	MCR03EZPJ105 1MOHM 5% 1/10W
		R1211	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1214	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1216	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1217	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1218	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1220	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1221	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1222	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1223	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1224	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1225	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1226	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1227	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1228	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1229	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1230	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1231	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1232	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1233	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1234	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1235	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1236	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1237	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1238	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1239	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1240	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1243	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1244	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R1246	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R125	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1253	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1254	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1255	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1257	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1258	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1259	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1265	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R128	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1291	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1293	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R1294	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1295	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R1296	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R130	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R132	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1325	0RJ5602D477	MCR03EZPF563 56KOHM 1% 1/10
		R1327	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R133	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1348	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1349	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R1350	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1351	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1352	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1355	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1356	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1357	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R1361	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		R1362	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		R1363	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		R1364	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1366	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R1368	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1378	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1380	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R1382	0RJ3300D677	MCR03EZPJ331 330OHM 5% 1/10
		R1384	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1385	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1397	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1398	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R1399	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R408	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R409	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R423	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R424	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R425	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R426	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R427	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R428	0RJ1820D477	MCR03EZPF1820 182OHM 1% 1/1
		R435	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R438	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R439	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R440	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R441	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R442	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R444	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R451	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R457	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R500	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R501	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R502	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R503	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R504	0RJ2202D677	MCR03EZPJ223 22KOHM 5% 1/10
		R506	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R507	0RJ0272D677	MCR03EZPJ270 27OHM 5% 1/10W
		R508	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R509	0RJ7500D677	MCR03EZPJ751 750OHM 5% 1/10
		R510	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R511	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R513	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R514	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R515	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R518	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R519	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R6001	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R6002	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R6003	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R6004	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R6005	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R6006	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R6007	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R6008	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R6011	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R6023	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R6024	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R6029	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R6030	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R6031	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R6032	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R6053	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R6054	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R6055	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R6056	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R6059	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R609	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R610	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R611	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R612	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R613	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R615	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R616	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R625	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R627	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R628	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R630	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R631	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R632	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R633	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R634	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R636	0RJ3900D677	MCR03EZPJ391 390OHM 5% 1/10
		R637	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R639	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R652	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R653	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R655	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R656	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R657	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R665	0RJ1101D677	MCR03EZPJ112 1.1KOHM 5% 1/1
		R666	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R667	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R668	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R669	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R670	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R671	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R672	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R673	0RJ0122D677	MCR03EZPJ120 12OHM 5% 1/10W
		R674	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R675	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R677	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R678	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R682	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R683	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R684	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R688	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R689	0RJ0332D677	MCR03EZPJ330 33OHM 5% 1/10W
		R694	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R695	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R696	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R697	0RJ1101D677	MCR03EZPJ112 1.1KOHM 5% 1/1
		R698	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R699	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R701	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R702	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R706	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R708	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R709	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R710	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R711	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R712	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R713	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R725	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R726	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R727	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R728	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R729	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R731	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R732	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R733	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R734	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R735	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R736	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R742	0RJ1202D677	MCR03EZPJ123 12KOHM 5% 1/10
		R743	0RJ1202D677	MCR03EZPJ123 12KOHM 5% 1/10
		R744	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R746	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R749	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R751	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R752	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R753	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R754	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R755	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R767	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R768	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R769	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R774	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R775	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R776	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R777	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R778	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R779	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R780	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R814	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R815	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R816	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R819	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R822	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R824	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R829	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R833	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R834	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R836	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R837	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R838	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R839	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R840	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R846	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R851	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R852	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R853	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R854	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R855	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R856	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R857	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R858	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R859	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R861	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R862	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R863	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R864	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R870	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R871	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R872	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R873	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R875	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R879	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R880	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R881	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R882	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R883	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R893	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R894	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R895	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
OTHERs				
		X1100	6212AB2015E	HC-49/SM 10MHZ 30PPM 10MHZ
		X1200	6212AC2001D	HC-49/SM 14MHZ 30PPM 14MHZ
		X601	6202TST001A	SX-1 14.31818MHZ 30PPM 14.3
		X701	6212AB2873A	HC-49/SM 24.576MHZ 30PPM 24
		X702	6212AB2873A	HC-49/SM 24.576MHZ 30PPM 24
		D1301	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D1303	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D1601	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D1602	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D1603	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D1604	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D300	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		D301	0DL233309AC	SAM2333 RED/Y-GREEN 2.7V 2.
		X200	6204B48360A	SCO-103-33.3300MHZ 33.33MHZ
		X3070	6204B47985P	BMS-873R 25MHZ 30PPM 3.3V 0
		X3071	6204B47985P	BMS-873R 25MHZ 30PPM 3.3V 0
		X500	6204B62705A	VCXO 27MHZ 100PPM 3.3V 0.00
		IC1604	0IPRPN5054A	LM75CIMX-3 3TO5.5V SOP R/TP
		SW301	EBF32593901	TMUE312GAB 1C1P 12VDC 0.5A
		TU1302	6700NF0024A	ENG36A54GF NTSC - - - - HOR
		TU1300	6700AB0001A	TDVM-H751P ATSC/NTSC/OOB 5.
		VR601	6102W5V016A	AVRL161A1R1NT 10V 30% 1.1pF
		VR602	6102W5V016A	AVRL161A1R1NT 10V 30% 1.1pF
		VR603	6102W5V016A	AVRL161A1R1NT 10V 30% 1.1pF
		VR604	6102W5V016A	AVRL161A1R1NT 10V 30% 1.1pF
ANALOG BOARD				
CAPACITOR				
		C101	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C105	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C106	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C107	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C109	0CE225WK6DC	MVK4.0TP50VC2.2M 2.2uF 20%
		C110	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C112	0CE225WK6DC	MVK4.0TP50VC2.2M 2.2uF 20%
		C115	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C116	0CE227WF6DC	MVK8.0TP16VC220M 220uF 20%
		C117	0CE227WF6DC	MVK8.0TP16VC220M 220uF 20%
		C121	0CE225WK6DC	MVK4.0TP50VC2.2M 2.2uF 20%
		C122	0CE225WK6DC	MVK4.0TP50VC2.2M 2.2uF 20%
		C126	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C127	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C238	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C245	0CE335WK6D8	MVK4.0TP50VC3.3M 3.3uF 20%
		C247	0CE226WF6DC	MVK5.0TP16VC22M 22uF 20% 16
		C263	0CE335WK6D8	MVK4.0TP50VC3.3M 3.3uF 20%
		C265	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C266	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C271	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C272	0CE475WK6DC	MVK5.0TP50VC4.7M 4.7uF 20%
		C273	0CE475WK6DC	MVK5.0TP50VC4.7M 4.7uF 20%
		C302	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C305	0CE477WF6DC	MVK10TP16VC470M 470uF 20% 1
		C309	0CE686SJ6D8	MVK68UF35V 68uF 20% 35V 157
		C311	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C313	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C314	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C319	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C320	0CE686SJ6D8	MVK68UF35V 68uF 20% 35V 157
		C321	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C327	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C328	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C332	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C335	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C344	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C345	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C346	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C347	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C354	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C355	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C356	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C359	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C363	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C367	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C369	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C371	0CE686SJ6D8	MVK68UF35V 68uF 20% 35V 157
		C372	0CE686SJ6D8	MVK68UF35V 68uF 20% 35V 157
		C373	0CE227SF6DC	MVG6.3TP16VC220M 220uF 20%
		C405	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C408	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C412	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C415	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C428	0CE106SK6DC	VMV106M050S0ANC010 10uF 20%
		C429	0CE106SK6DC	VMV106M050S0ANC010 10uF 20%
		C452	0CE337WJ6D8	MVK12.5TP35VC330M 330uF 20%
		C453	0CE337WJ6D8	MVK12.5TP35VC330M 330uF 20%
		C454	0CE337WJ6D8	MVK12.5TP35VC330M 330uF 20%
		C455	0CE337WJ6D8	MVK12.5TP35VC330M 330uF 20%
		C501	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C512	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C527	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C529	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C532	0CE105WK6DC	MVK4.0TP50VC1M 1uF 20% 50V
		C536	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C540	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C543	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C601	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C623	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C624	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C625	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C626	0CE476WH6DC	MVK8.0TP25VC47M 47uF 20% 25
		C627	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C630	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C632	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C634	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C635	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C636	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C637	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C638	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16
		C639	0CE106WFKDC	MVK4.0TP16VC10M 10uF 20% 16

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C102	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C103	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C104	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C111	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C113	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C114	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C118	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C119	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C123	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C124	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C125	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C132	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C133	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C134	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C135	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C241	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C242	0CC560CK41A	C1608C0G1H560JT 56pF 5% 50V
		C243	0CC560CK41A	C1608C0G1H560JT 56pF 5% 50V
		C244	0CC560CK41A	C1608C0G1H560JT 56pF 5% 50V
		C246	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C249	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C251	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C252	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C253	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C254	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C255	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C256	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C257	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C258	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C259	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C260	0CK222CK56A	0603B222K500CT 2.2nF 10% 50
		C261	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C262	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C264	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C274	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C301	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C303	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C304	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C306	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C307	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C315	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C316	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C317	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C322	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C323	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C325	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C326	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C329	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C337	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C338	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C339	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C340	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C341	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C342	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C343	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C348	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C349	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C350	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C351	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C352	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C353	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C357	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C358	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C360	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C361	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C362	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C364	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C366	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C368	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C370	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C401	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C402	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C403	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C404	0CK104CK56A	0603B104K500CT 100nF 10% 50

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C406	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C407	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C409	0CK105CF94A	0603F105Z160CT 1uF -20TO+80
		C410	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C411	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C413	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C414	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C416	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C418	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C419	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C421	0CK105CF94A	0603F105Z160CT 1uF -20TO+80
		C423	0CK105CF94A	0603F105Z160CT 1uF -20TO+80
		C426	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C431	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C434	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C436	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C438	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C439	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C444	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C445	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C448	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C450	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C460	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C461	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C462	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C463	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C465	0CK474EK66A	C3216X7R1H474MT 470nF 20% 5
		C467	0CK474EK66A	C3216X7R1H474MT 470nF 20% 5
		C468	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C470	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C473	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C474	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C502	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C503	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C504	0CK472CK56A	0603B472K500CT 4.7nF 10% 50
		C509	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C510	0CK105CF94A	0603F105Z160CT 1uF -20TO+80
		C511	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C515	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C521	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C528	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C531	0CK104CF56A	0603B104K160CT 100nF 10% 16
		C538	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C539	0CK104CF56A	0603B104K160CT 100nF 10% 16
		C541	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C603	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C604	0CC101CK41A	C1608C0G1H101JT 100pF 5% 50
		C607	0CC220CK41A	C1608C0G1H220JT 22pF 5% 50V
		C608	0CC220CK41A	C1608C0G1H220JT 22pF 5% 50V
		C611	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C612	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C614	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C615	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C616	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C628	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C631	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C650	0CC471CK41A	C1608C0G1H471JT 470pF 5% 50
		C108	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C120	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C236	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C239	0CC020CK01A	C1608C0G1H020CT 2pF 0.25PF
		C240	0CC020CK01A	C1608C0G1H020CT 2pF 0.25PF
		C248	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C250	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C267	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C268	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C269	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C270	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C312	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C330	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C331	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C333	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C417	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C422	0CK104CK56A	0603B104K500CT 100nF 10% 50

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		C446	0CK333CK56A	C1608X7R1H333KT 33nF 10% 50
		C447	0CK333CK56A	C1608X7R1H333KT 33nF 10% 50
		C449	0CK333CK56A	C1608X7R1H333KT 33nF 10% 50
		C451	0CK333CK56A	C1608X7R1H333KT 33nF 10% 50
		C505	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C506	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C507	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C508	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C513	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C514	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C516	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C517	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C518	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C519	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C520	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C522	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C523	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C524	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C525	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C526	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C530	0CK104CF56A	0603B104K160CT 100nF 10% 16
		C534	0CC220CK41A	C1608C0G1H220JT 22pF 5% 50V
		C535	0CC220CK41A	C1608C0G1H220JT 22pF 5% 50V
		C537	0CK104CF56A	0603B104K160CT 100nF 10% 16
		C542	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C544	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C602	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C629	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C633	0CK104CK56A	0603B104K500CT 100nF 10% 50
DIODES				
		D101	0DSIH00028A	MC2838-T112-1 1.2V 75V 300M
		D102	0DSIH00028A	MC2838-T112-1 1.2V 75V 300M
		ZD101	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD102	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD107	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD108	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD109	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD110	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD202	0DZRM00248A	RLZ8.2B 8.2V 7.78TO8.19V 80
		ZD601	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD602	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD603	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD604	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD605	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD618	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD619	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD620	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD606	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD621	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD622	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
IC				
		IC101	0ISO206900A	CXA2069Q 8.5TO9.5V - - 1.3W
		IC401	0ILNR00015A	NSP-2100A 1.8VTO3.3V - - -
		IC403	0IMCRTI028C	"TAS5122DCARG4,LF 3TO3.6V_16"
		IC505	0ISTL00024A	MC14053BDR2G 3TO18V 0.02mA
		IC502	0IMCRAL006A	AT24C16AN-10SU-2.7 16KBIT 2
		IC601	0IMMRAL014D	AT24C02BN-10SU-1.8 2KBIT 25
		IC302	0IMCRSJ001A	SC1565IST-1.8 2.2TO5.5V 1.8
		IC304	0IMCRRH001A	BA033FP-E2 4.3TO25V 3.3V 1W
		IC201	0IMMRAL016D	AT49BV160C-70TU 16MBIT 2MX8
		IC202	0IMCRMN028C	MSP4450K-QA-D6 7.6TO8.7V_4.
		IC602	0IPH740800H	74F08D 4.5TO5.5V 12.9mA AND
		IC501	0IMCRSO025A	CXA2181Q 4.75VTO5.25V - 1.6
		IC503	0IKE702900G	KIA7029AF -0.3TO15V 2.9V 50
		IC301	0IMCRSH001A	PQ05DZ1U 6TO16V 5V 8W D2PAK
		IC303	0IMCRFA010A	KA7809R 11.5TO24V 9V 150W D
COIL & CORE & INDUCTOR				
		L302	6140VB0004B	LN-15A1 26uH AC500V 5MA 12X

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		L303	6140VB0004B	LN-15A1 26uH AC500V 5MA 12X
		L304	6140VB0004B	LN-15A1 26uH AC500V 5MA 12X
		L306	6140VB0004B	LN-15A1 26uH AC500V 5MA 12X
		L408	61409B0008A	DBF-1310S 10uH - - 13.5X10M
		L409	61409B0008A	DBF-1310S 10uH - - 13.5X10M
		L410	61409B0008A	DBF-1310S 10uH - - 13.5X10M
		L411	61409B0008A	DBF-1310S 10uH - - 13.5X10M
		L301	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L305	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L311	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L312	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L313	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L401	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L402	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L403	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L404	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L417	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L418	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L419	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L420	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L421	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L422	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L423	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L424	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L425	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L426	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L427	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L428	6210TCE001S	HU-1M2012-121 120OHM 2X1.25
		L601	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L604	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L613	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L614	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		R635	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R636	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R651	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R673	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		R674	6210TCE0013	HB-1M1608-121JT 120OHM 1.6X
		L308	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L309	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L310	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L315	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L316	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L503	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L602	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L101	0LC2000005D	FI-B2012-332KJT 3.3UH 10% 0
		L102	0LC2000005D	FI-B2012-332KJT 3.3UH 10% 0
		L103	0LC2000005D	FI-B2012-332KJT 3.3UH 10% 0
		L104	0LC2000005D	FI-B2012-332KJT 3.3UH 10% 0
		L204	0LC2232101A	FI-D3216-223KJT 22UH 10% -
		L205	0LC2232101A	FI-D3216-223KJT 22UH 10% -
		L206	0LC2232101A	FI-D3216-223KJT 22UH 10% -
		L501	0LC2232101A	FI-D3216-223KJT 22UH 10% -
		L502	0LC2232101A	FI-D3216-223KJT 22UH 10% -
TRANSISTOR				
		Q301	0TFVI80067A	SI3865BDV(E3) N-CHANNEL MOS
		Q303	0TFVI80067A	SI3865BDV(E3) N-CHANNEL MOS
		Q605	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q606	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q107	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q108	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q110	0TRIH80001A	2SC3052 NPN 6V 50V 50V 200M
		Q112	0TRIH80001A	2SC3052 NPN 6V 50V 50V 200M
		Q201	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q203	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q205	0TRIH80001A	2SC3052 NPN 6V 50V 50V 200M
		Q206	0TRIH80001A	2SC3052 NPN 6V 50V 50V 200M
		Q207	0TR102009AM	KRA102S PNP -30V - -50V -0.
		Q501	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q504	0TRIH80001A	2SC3052 NPN 6V 50V 50V 200M
		Q612	0TRIH80003A	RT1N141C-T112-1 NPN 10V 50V
		Q102	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q103	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6

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		Q105	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q106	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q109	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q202	OTRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q204	OTRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q502	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q503	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q517	OTR102009AM	KRA102S PNP -30V - -50V -0.
		Q613	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q614	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q615	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q616	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q617	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q618	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q619	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q620	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q621	OTRIY80001A	2SC3052 NPN 6V 50V 50V 200M
RESISTORS				
		R101	ORJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R103	ORJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R112	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R113	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R115	ORJ5601D677	MCR03EZPJ562 5.6KOHM 5% 1/1
		R116	ORJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R117	ORJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R118	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R119	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R120	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R121	ORJ9100D677	MCR03EZPJ911 910OHM 5% 1/10
		R122	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R123	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R124	ORJ5100D677	MCR03EZPJ511 510OHM 5% 1/10
		R125	ORJ9100D677	MCR03EZPJ911 910OHM 5% 1/10
		R126	ORJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R127	ORJ5100D677	MCR03EZPJ511 510OHM 5% 1/10
		R129	ORJ5601D677	MCR03EZPJ562 5.6KOHM 5% 1/1
		R131	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R132	ORJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R133	ORJ1003D677	MCR03EZPJ104 100KOHM 5% 1/1
		R134	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R135	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R136	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R141	ORJ0682D677	MCR03EZPJ680 68OHM 5% 1/10W
		R144	ORJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R146	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R149	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R150	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R155	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R157	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R158	ORJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R159	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R160	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R161	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R162	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R163	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R164	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R226	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R227	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R230	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R231	ORJ0392D677	MCR03EZPJ390 39OHM 5% 1/10W
		R232	ORJ0392D677	MCR03EZPJ390 39OHM 5% 1/10W
		R247	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R260	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R261	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R266	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R267	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R268	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R269	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R270	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R271	ORJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R272	ORJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R273	ORJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1

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		R274	ORJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/1
		R275	ORJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/1
		R276	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R304	ORJ2202D677	MCR03EZPJ223 22KOHM 5% 1/10
		R308	ORJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R310	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R311	ORJ2202D677	MCR03EZPJ223 22KOHM 5% 1/10
		R312	ORJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R401	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R402	ORJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R403	ORJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R407	ORJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R408	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R432	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R433	ORJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R439	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R441	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R443	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R444	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R448	ORJ0331D677	MCR03EZPJ3R3 3.3OHM 5% 1/10
		R450	ORJ0331D677	MCR03EZPJ3R3 3.3OHM 5% 1/10
		R456	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R458	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R459	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R464	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R465	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R466	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R467	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R469	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R472	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R473	ORJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R501	ORJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R506	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R5106	ORJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R5111	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5113	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5114	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5118	ORJ6802D677	MCR03EZPJ683 68KOHM 5% 1/10
		R512	ORJ4700D677	MCR03EZPJ471 470OHM 5% 1/10
		R5120	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R514	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R5140	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R5155	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5166	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R5167	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R5168	ORJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R517	ORJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R5171	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R544	ORJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R563	ORJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R569	ORJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R570	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R580	ORJ2002D677	MCR03EZPJ203 20KOHM 5% 1/1
		R583	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R585	ORJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R6000	ORJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R6004	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R6005	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R6006	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R6007	ORJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R6008	ORJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R601	ORJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R6016	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R6017	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R6018	ORJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R602	ORJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R607	ORJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R612	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R613	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R614	ORJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R617	ORJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R618	ORJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R627	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R628	ORJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R629	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R630	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R631	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R632	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R633	0RJ0102D677	MCR03EZPJ100 10OHM 5% 1/10W
		R645	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R652	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R653	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R654	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R664	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R665	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R666	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R667	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R668	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R669	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R670	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R671	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R672	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R678	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R679	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R680	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R684	0RJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R685	0RJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R686	0RJ1502D677	MCR03EZPJ153 15KOHM 5% 1/10
		R687	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R688	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R689	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R690	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R691	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R692	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R695	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R696	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R697	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R698	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R699	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R102	0RJ5100D677	MCR03EZPJ511 510OHM 5% 1/10
		R104	0RJ5100D677	MCR03EZPJ511 510OHM 5% 1/10
		R105	0RJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/1
		R106	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R107	0RJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/1
		R108	0RJ9100D677	MCR03EZPJ911 910OHM 5% 1/10
		R109	0RJ9100D677	MCR03EZPJ911 910OHM 5% 1/10
		R111	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R114	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R128	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R130	0RJ3300D677	MCR03EZPJ331 330OHM 5% 1/10
		R137	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R138	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R139	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R140	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R142	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R143	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R147	0RJ1003D677	MCR03EZPJ104 100KOHM 5% 1/1
		R148	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R151	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R152	0RJ5601D677	MCR03EZPJ562 5.6KOHM 5% 1/1
		R153	0RJ5601D677	MCR03EZPJ562 5.6KOHM 5% 1/1
		R154	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R222	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R223	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R224	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R228	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R233	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R234	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R235	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R236	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R237	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R239	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R240	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R241	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R242	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R243	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R244	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R245	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R248	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R249	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R250	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R251	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R252	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R253	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R254	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R255	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R256	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R257	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R258	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R259	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R262	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R263	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R264	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R265	0RJ2201D677	MCR03EZPJ222 2.2KOHM 5% 1/1
		R303	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R306	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R404	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R406	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R409	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R410	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R411	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R412	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R413	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R414	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R415	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R417	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R418	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R423	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R424	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R426	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R427	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R438	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R453	0RJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R454	0RJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R455	0RJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R457	0RJ0101D677	MCR03EZPJ1R0 1OHM 5% 1/10W
		R508	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R510	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R5101	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5103	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R5105	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5107	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5108	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5109	0RJ1003D677	MCR03EZPJ104 100KOHM 5% 1/1
		R5110	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5112	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R513	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R5137	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R5139	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R515	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R5153	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R5154	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R5156	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R5157	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5158	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5159	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R516	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R5160	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5161	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5162	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5163	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5164	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R5165	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R520	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R521	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R524	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R527	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R529	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R530	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R540	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R541	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R542	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R546	0RJ2200D677	MCR03EZPJ221 220OHM 5% 1/10
		R550	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R551	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R552	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R555	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R556	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R557	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R558	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R559	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R561	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R562	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R566	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R567	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R573	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R574	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R575	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R576	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R577	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R578	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R579	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R581	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R584	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R587	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R589	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R591	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R592	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R593	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R594	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R595	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R596	0RJ3302D677	MCR03EZPJ333 33KOHM 5% 1/10
		R597	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R598	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R599	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R6009	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R6019	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R6020	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R6021	0RJ6801D677	MCR03EZPJ682 6.8KOHM 5% 1/1
		R6025	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R6027	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R606	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R608	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R609	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R610	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R611	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R615	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R616	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R663	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R693	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R694	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R505	0RN1002F409	RN-96T1F10K0 10KOHM 1% 1/6W
OTHERS				
		X501	6212AB3004D	CSALF2M69G4ZF01-A3 2.696MHZ
		X202	6202VDT002H	SX-1 18.432MHZ 30PPM 18.432
		X502	6212AB2015A	HC-49/SM4H 4MHZ 30PPM 4MHZ
		X503	6202TST001E	SX-1 24MHZ 30PPM 24MHZ 30PP
DE-INTERFACE BOARD				
CAPACITOR				
		C249	0CE227WF6DC	MVK6.0TP16VC220M 220uF 20%
		C256	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C473	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C474	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C475	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C476	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C477	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C478	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C479	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C485	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C486	0CE476WH6DC	MVK8.0TP25VC47M 47uF 20% 25
		C487	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C488	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C490	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C491	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C492	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C493	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C151	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C155	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C167	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C168	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C171	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C183	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C184	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C185	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C186	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C187	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C226	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C406	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C407	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C408	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C409	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C411	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C469	0CH3103K516	C2012Y5P1H103KT 10nF 10% 50
		C470	0CK332CK56A	C1608X7R1H332KT 3.3nF 10% 5
		C489	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C497	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C101	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C102	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C103	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C104	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C105	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C106	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C107	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C108	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C109	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C110	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C111	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C112	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C113	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C114	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C115	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C116	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C117	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C118	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C119	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C120	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C121	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C122	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C123	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C124	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C125	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C126	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C127	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C128	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C129	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C130	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C131	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C132	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C133	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C134	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C135	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C136	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C137	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C138	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C139	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C140	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C141	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C142	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C143	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C144	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C145	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C146	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C147	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C148	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C149	0CK103CK56A	0603B103K500CT 10nF 10% 50V

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C150	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C152	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C156	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C157	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C158	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C165	0CC300CK41A	C1608C0G1H300JT 30pF 5% 50V
		C166	0CC300CK41A	C1608C0G1H300JT 30pF 5% 50V
		C169	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C170	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C175	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C176	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C177	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C178	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C179	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C180	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C181	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C182	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C201	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C205	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C207	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C208	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C209	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C210	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C211	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C212	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C213	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C214	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C215	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C216	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C217	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C218	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C219	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C220	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C221	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C222	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C223	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C224	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C225	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C227	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C228	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C229	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C230	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C231	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C232	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C233	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C234	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C235	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C236	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C237	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C238	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C239	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C240	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C241	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C242	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C243	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C244	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C245	0CK105EK56A	C3216X7R1H105KT 1uF 10% 50V
		C246	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C250	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C251	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C252	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C253	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C306	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C307	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C308	0CK103CK56A	0603B103K500CT 10nF 10% 50V
		C309	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C310	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C311	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C312	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C313	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C403	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C404	0CK104CK56A	0603B104K500CT 100nF 10% 50
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		C410	0CK104CK56A	0603B104K500CT 100nF 10% 50

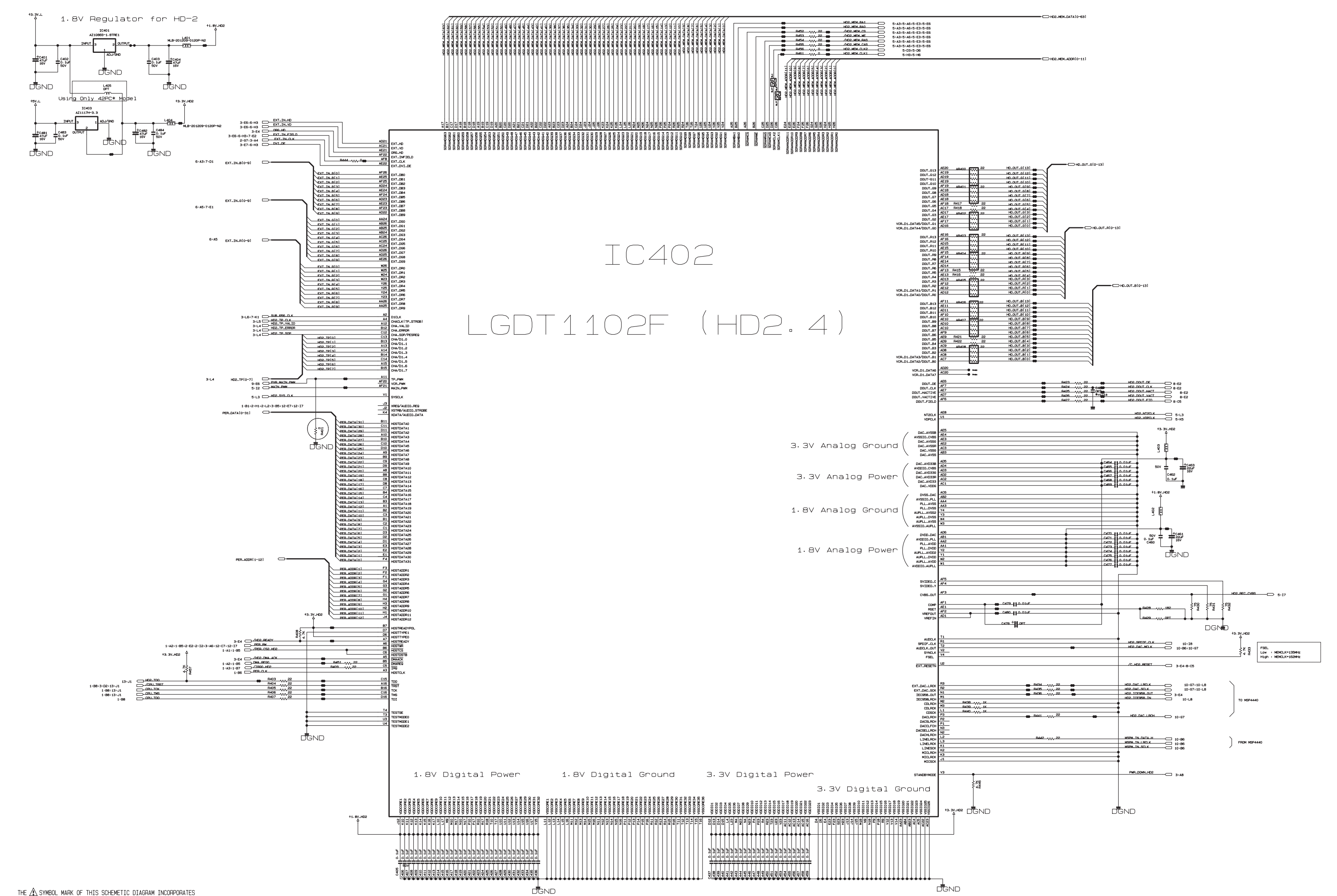
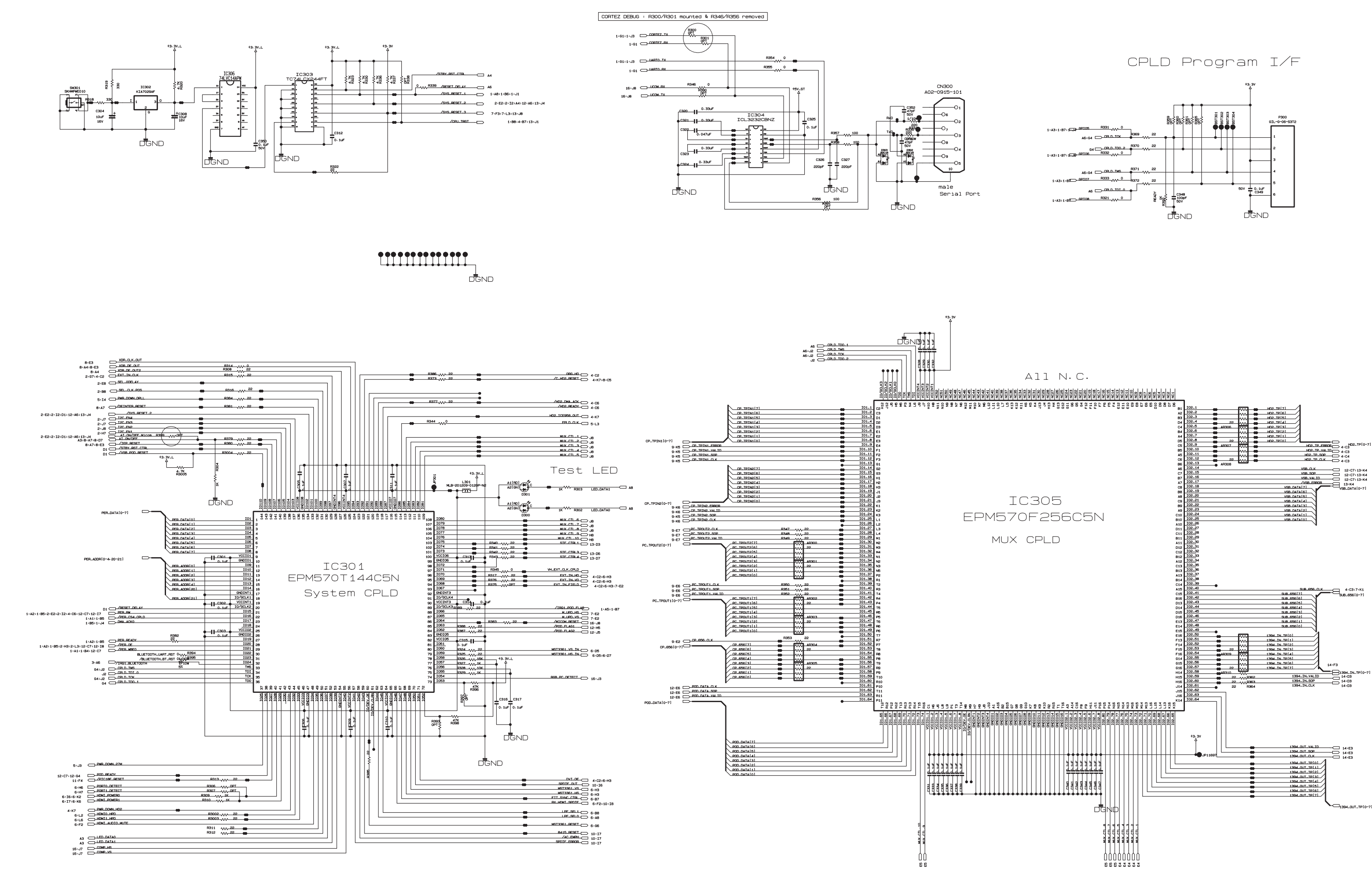
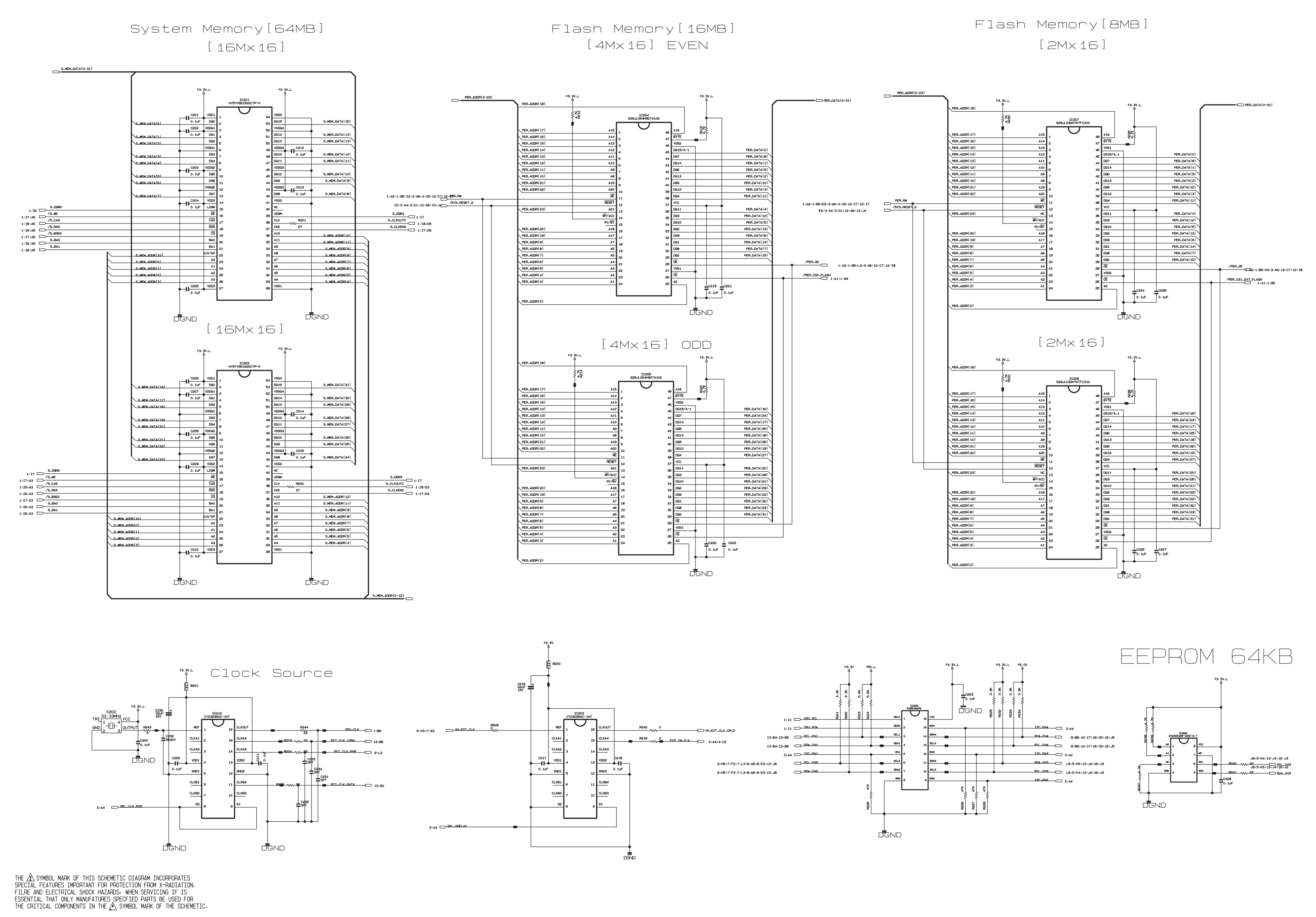
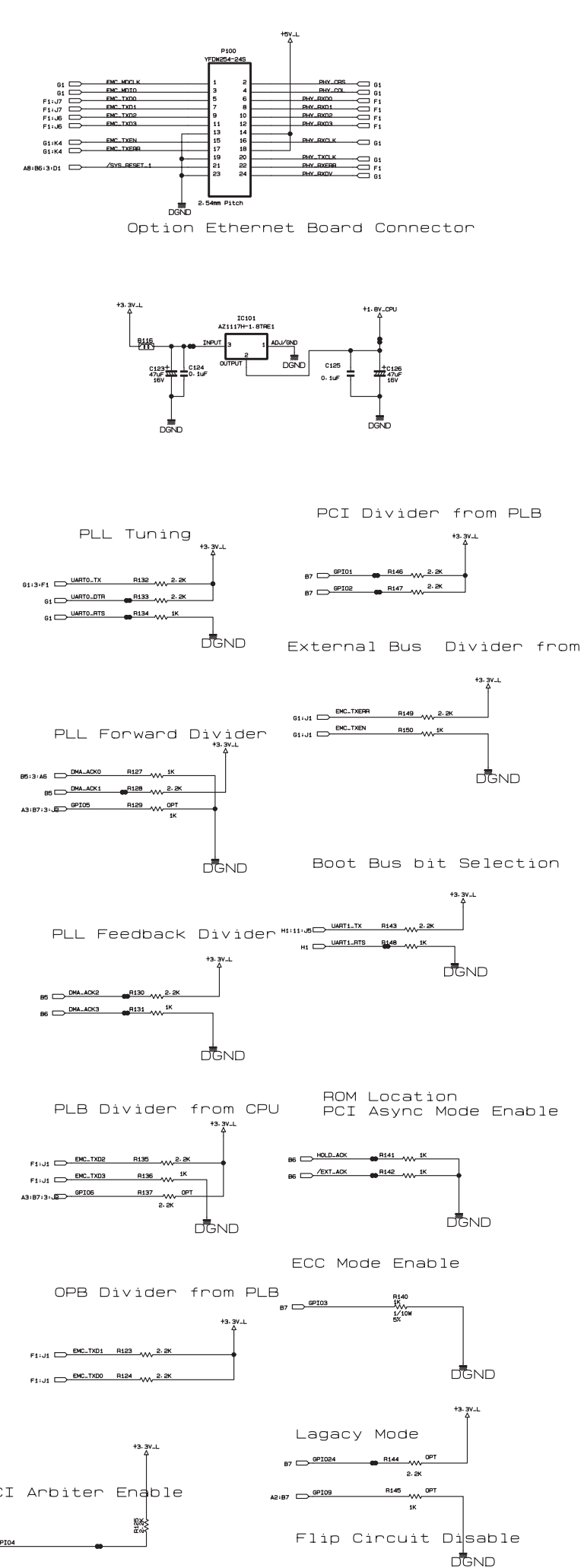
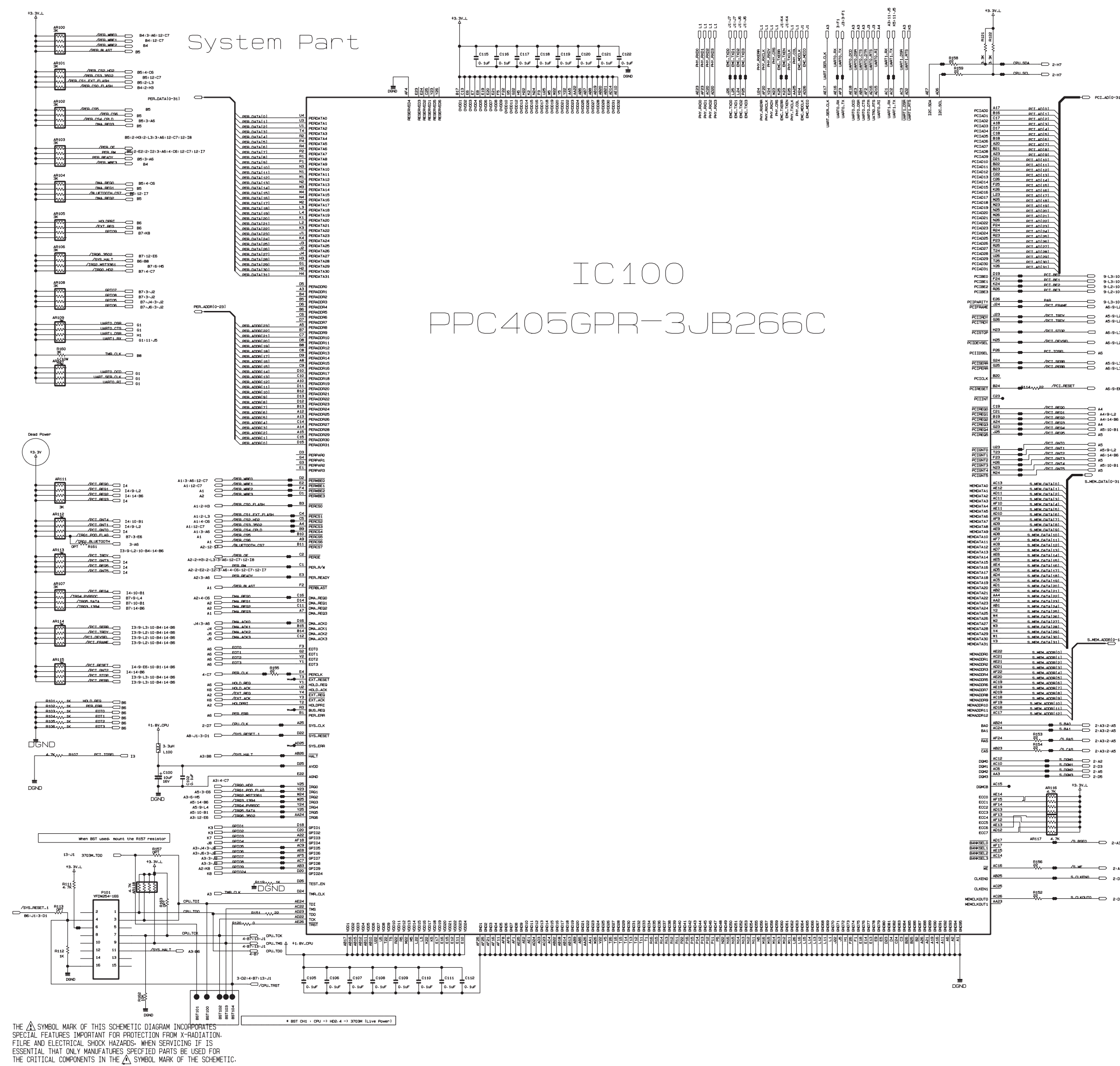
DATE: 2006. 10. 09.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C418	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C419	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C424	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C426	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C427	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C428	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C429	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C430	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C431	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C442	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C445	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C447	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C452	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C454	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C455	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C460	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C461	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C467	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C468	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C495	0CC120CK41A	C1608C0G1H120JT 12pF 5% 50V
DIODEs				
		D401	0DR340009AA	MBRS340 525MV 40V 4A 0SEC 0
		D403	0DRSE00038A	SDC15 1.3V 14.3VTO16.4V 21.
		D404	0DRSE00038A	SDC15 1.3V 14.3VTO16.4V 21.
IC				
		IC409	0IPMG00063A	MP1593DN-LF-Z 4.75TO28V 1.2
		IC202	0IMMRHY052C	HY5DU281622ETP-5 128MBIT 2M
		IC203	0IMMRHY052C	HY5DU281622ETP-5 128MBIT 2M
		IC404	0IPRPM001A	MIC39100 2.3TO26V 0 0W SOT2
		IC406	0IPMG00027A	SC156515M-1.8TR 2.2TO5.5V 1
		IC301	0IMCRTH003B	"THC63LVD104A 3VTO3.6V,0VTO0"
		IC401	0IPRP00009A	ICL3232CBNZ 3VTO5.5V - SSOP
		IC100	0IPRP00692A	FLI8668-LF-BC 1.8VTO2.5V 19
		IC204	0IPMG78391A	SC2595STR 2.3TO5V 0 0W SOIC
COIL & CORE & INDUCTOR				
		L412	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L414	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L419	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L401	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L402	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L403	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L404	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L405	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L406	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L407	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L408	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L409	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L410	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L411	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L413	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L416	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L417	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L420	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L302	0LC4732101A	FI-B3216-472KJT 4.7UH 10% -
		L303	0LC4732101A	FI-B3216-472KJT 4.7UH 10% -
		L418	6140VR0008B	SLF12575T-150M4R7 15UH 20%
TRANSISTOR				
		Q101	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
		Q102	0TR830009BA	BSS83 N-CHANNEL MOSFET 10V
RESISTORS				
		AR134	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR135	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR136	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR137	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W

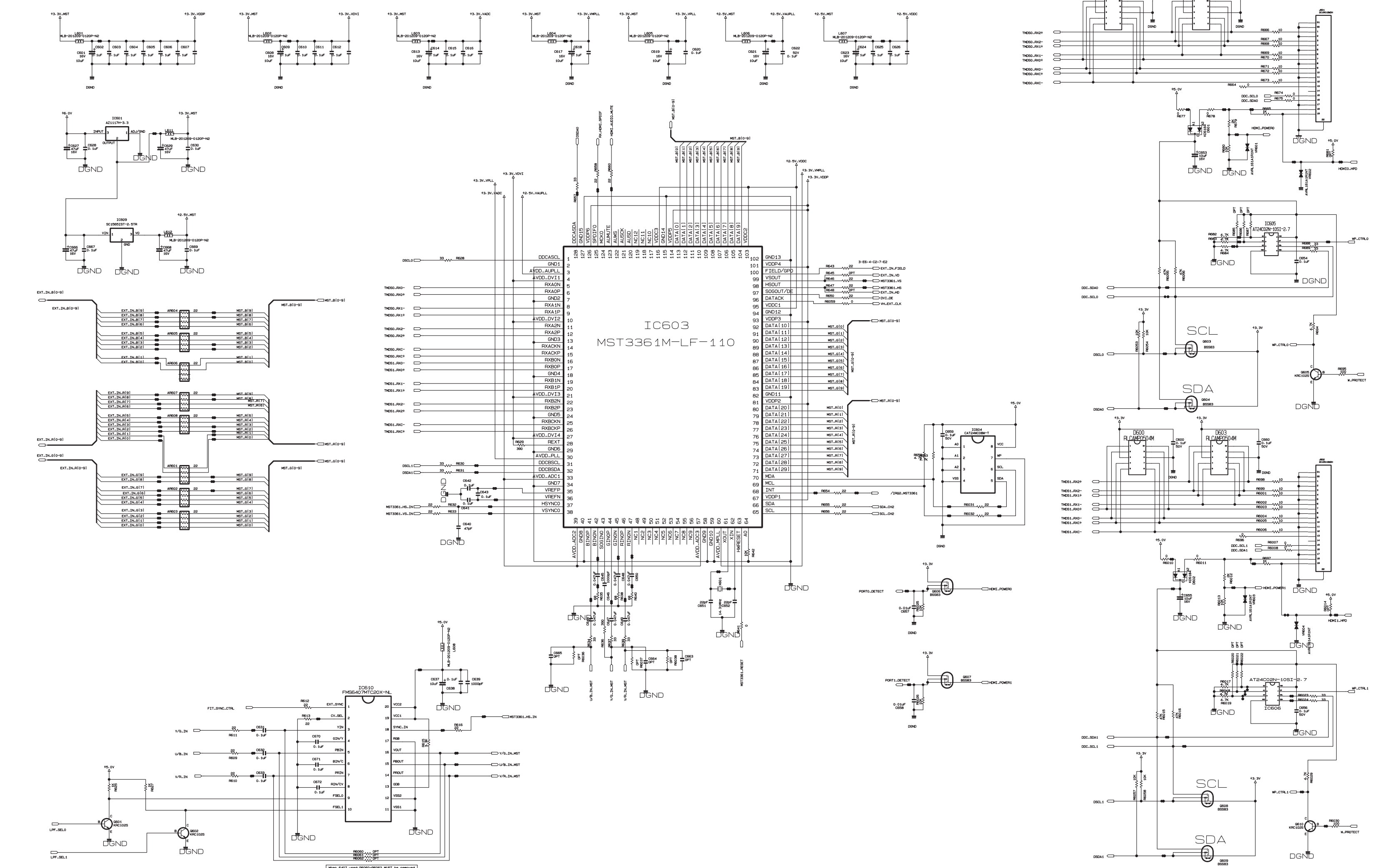
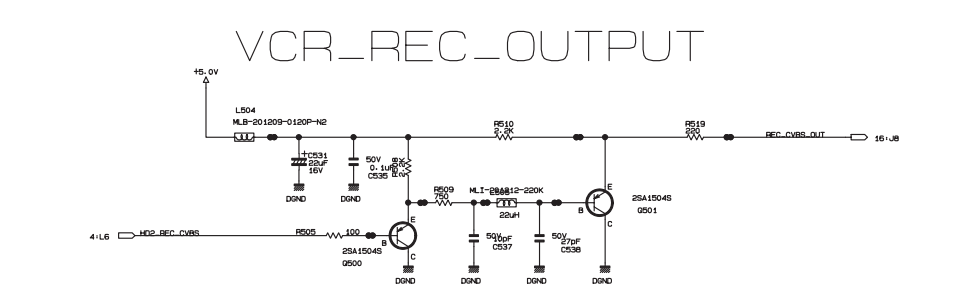
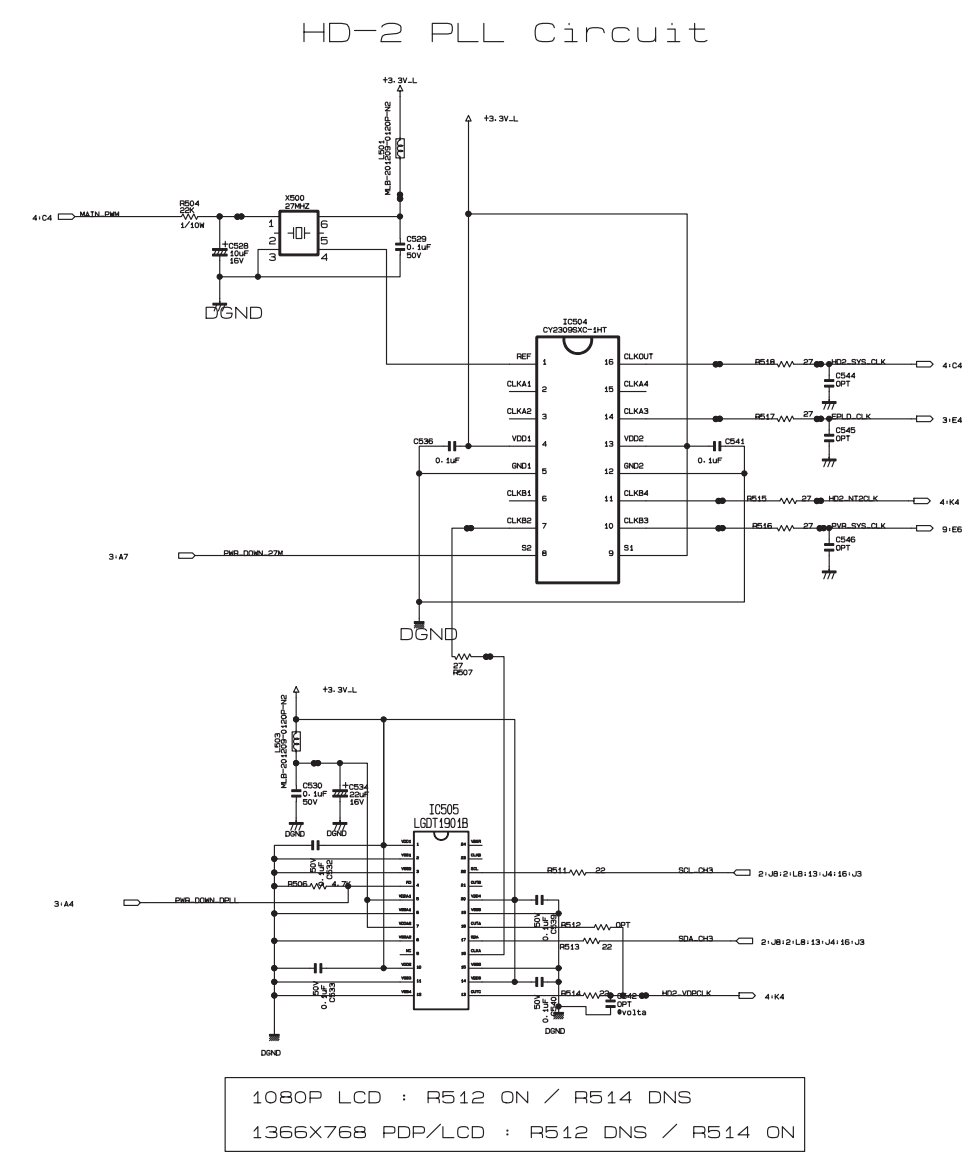
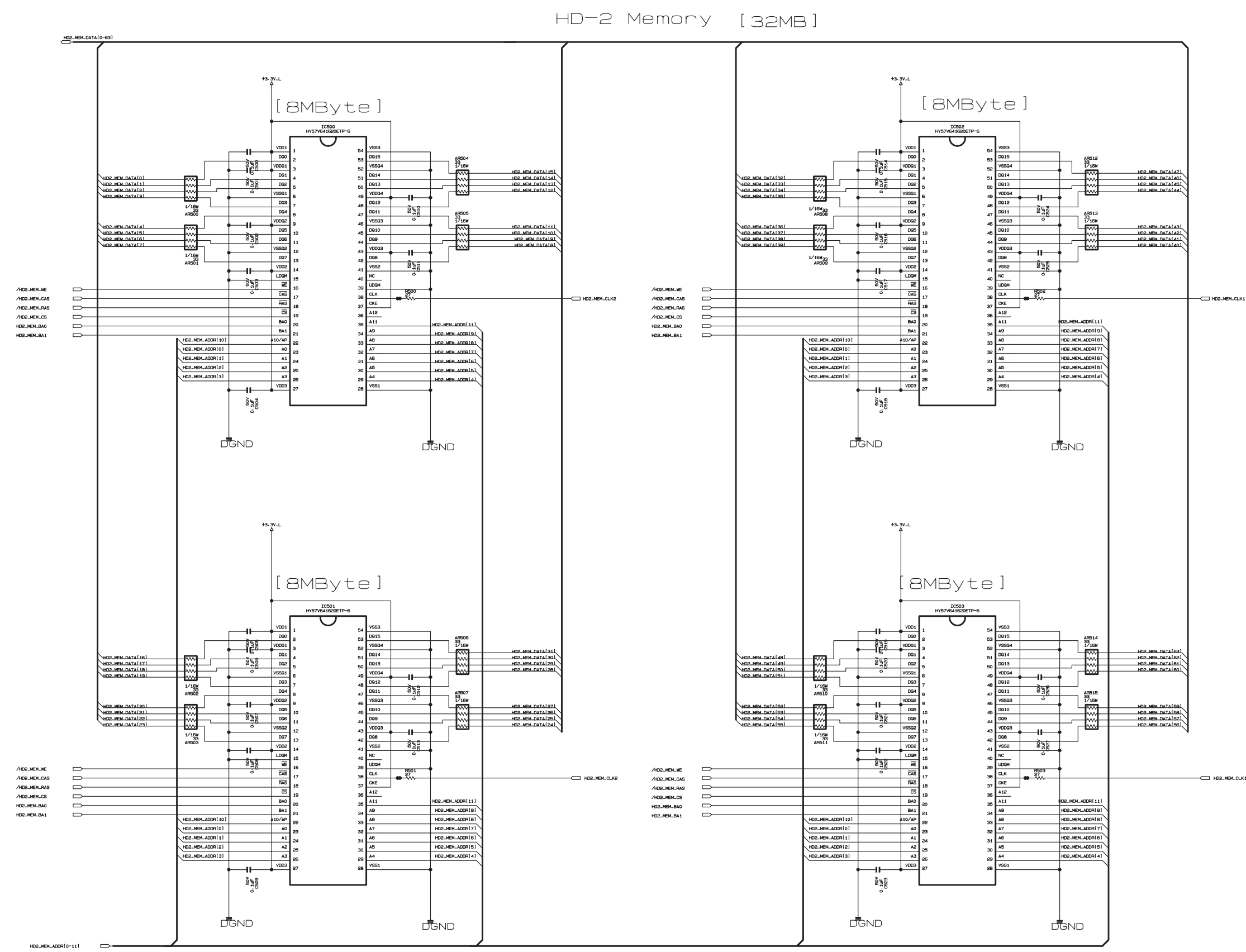
DATE: 2006. 10. 09.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		AR138	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR139	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR140	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR141	0RJ0332C605	RCA86TRJ33R0 33OHM 5% 1/10W
		AR311	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR312	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR313	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR314	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR316	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR318	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR319	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		AR320	0RRZVTA001D	RCA86TRJ22R0 22OHM 5% 1/16W
		R103	0RJ1002D677	MCR03EJPJ103 10KOHM 5% 1/10
		R104	0RJ1002D677	MCR03EJPJ103 10KOHM 5% 1/10
		R111	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R1115	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R1116	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R1117	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R112	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R1157	0RJ0000D677	MCR03EJPJ000 0OHM 5% 1/10W
		R117	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R118	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R119	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R120	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R121	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R122	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R123	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R124	0RJ0332D677	MCR03EJPJ330 33OHM 5% 1/10W
		R128	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R129	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R130	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R131	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R132	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R133	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R159	0RJ1002D677	MCR03EJPJ103 10KOHM 5% 1/10
		R163	0RJ1002D677	MCR03EJPJ103 10KOHM 5% 1/10
		R301	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R302	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R303	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R304	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R305	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R306	0RJ1000D677	MCR03EJPJ101 100OHM 5% 1/10
		R308	0RJ1001D677	MCR03EJPJ102 1KOHM 5% 1/10W
		R309	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R315	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R330	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R331	0RJ0222D677	MCR03EJPJ220 22OHM 5% 1/10W
		R406	0RJ1002D677	MCR03EJPJ103 10KOHM 5% 1/10
		R407	0RJ1002D677	MCR03EJPJ103 10KOHM 5% 1/10
		R408	0RJ2002D677	MCR03EJPJ203. 20KOHM 5% 1/1
		R409	0RH1002D622	MCR10EZHJ103 10KOHM 5% 1/8W
		R410	0RH2202D622	MCR10EZHJ223 22KOHM 5% 1/8W
		R411	0RH7502D622	MCR10EZHJ753 75KOHM 5% 1/8W
		R412	0RH4701D622	MCR10EZHJ472 4.7KOHM 5% 1/8
		R418	0RJ0000D677	MCR03EJPJ000 0OHM 5% 1/10W
		R419	0RJ0000D677	MCR03EJPJ000 0OHM 5% 1/10W
		R420	0RJ0000D677	MCR03EJPJ000 0OHM 5% 1/10W
		R421	0RJ1001D677	MCR03EJPJ102 1KOHM 5% 1/10W
		R422	0RJ1001D677	MCR03EJPJ102 1KOHM 5% 1/10W
		R423	0RJ0752D677	MCR03EJPJ750 75OHM 5% 1/10W
		R424	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R426	0RJ0752D677	MCR03EJPJ750 75OHM 5% 1/10W
		R427	0RJ0752D677	MCR03EJPJ750 75OHM 5% 1/10W
		R428	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R1101	0RJ0000D677	MCR03EJPJ000 0OHM 5% 1/10W
		R1102	0RJ0000D677	MCR03EJPJ000 0OHM 5% 1/10W
		R1103	0RJ3301D677	MCR03EJPJ332 3.3KOHM 5% 1/1
		R1106	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R1107	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R1108	0RJ4701D677	MCR03EJPJ472 4.7KOHM 5% 1/1
		R1114	0RJ0512D677	MCR03EJPJ510 51OHM 5% 1/10W
		R1118	0RJ0512D677	MCR03EJPJ510 51OHM 5% 1/10W
		R1119	0RJ0512D677	MCR03EJPJ510 51OHM 5% 1/10W
		R1120	0RJ0512D677	MCR03EJPJ510 51OHM 5% 1/10W

DATE: 2006. 10. 09.					
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION	
		R405	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10	
OTHERs					
		X101 SW101 SW201	6212AB2015J EBF32593901 EBF32593901	HC-49SM 19.66080HZ 19.6608H TMUE312GAB 1C1P 12VDC 0.5A TMUE312GAB 1C1P 12VDC 0.5A	
INDEX BOARD					
		D101 D102 IC101 C101 C107 C110 C112 L101 L103 L104 Q101 R101 R102 R103 R104 R136 R139 R141 R142 C102 C103 C104 C105 C106 C108 C109 C111 C115 IC102 IC103 L105 Q102 Q103 Q104 Q105 Q106 Q107 Q108 R105 R106 R107 R108 R109 R110 R111 R112 R115 R116 R117 R118 R119 R120 R121 R122 R123 R124 R125 R126 R127 R128 R140	0DLAU0410AA 6301900003A 6712000011B 0CH3104K566 0CH3104K566 0CH3104K566 0CH3104K566 0LC2232101A 6210TCE001G 6210TCE001G 0TR387500AA 0RH1101D622 0RH5100D622 0RH1001D622 0RH1001D622 0RH0000D622 0RH4701D622 0RH1002D622 0RH1002D622 0CZZTAT006D 0CH6330K416 0CH3103K516 0CH3104K566 0CE106SH6DC 0CE106SH6DC 0CE106SH6DC 0CE106SH6DC 0CZZTAT006D 0IM623200B 0IMCRFA015A 6210TCE001G 0TR387500AA 0TR387500AA 0TR387500AA 0TR387500AA 0TR387500AA 0TR387500AA 0TR387500AA 0TR387500AA 0RH1000D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH0222D622 0RH1001D622 0RH4701D622 0RH1001D622 0RH4701D622 0RH1001D622 0RH4701D622 0RH1001D622 0RH0000D622 0RH4701D622 0RH1001D622 0RH1001D622 0RH4701D622 0RH1002D622	SAW5670 ROUND 5mM AMBER/WHI WHITE 6 HOLE WHITE 3V 20MA 8 KSM-2013TE2A 4.5TO5.5V 1.3M 0805B104K500CT 100nF 10% 50 0805B104K500CT 100nF 10% 50 0805B104K500CT 100nF 10% 50 0805B104K500CT 100nF 10% 50 FI-D3216-223KJT 22UH 10% - HH-1M3216-501JT 500OHM 3.2X HH-1M3216-501JT 500OHM 3.2X 2SC3875S(ALY) NPN 5V 60V 50 MCR10EZHJ112 1.1KOHM 5% 1/8 MCR10EZHJ511 510OHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ000 0OHM 5% 1/8W 2 MCR10EZHJ472 4.7KOHM 5% 1/8 MCR10EZHJ103 10KOHM 5% 1/8W MCR10EZHJ103 10KOHM 5% 1/8W RV2-16V101MSU-R 100uF 20% 1 C2012COG1H330JT 33p 5% 50V C2012Y5P1H103KT 10nF 10% 50 0805B104K500CT 100nF 10% 50 VMV106M025S0ANB010 10uF 20% VMV106M025S0ANB010 10uF 20% VMV106M025S0ANB010 10uF 20% VMV106M025S0ANB010 10uF 20% RV2-16V101MSU-R 100uF 20% 1 M62320FP 4.5TO5.5V 0.05mA 4 KA7805R 7TO20V 5V 150W DPAK HH-1M3216-501JT 500OHM 3.2X 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 2SC3875S(ALY) NPN 5V 60V 50 MCR10EZHJ101 100OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ220 22OHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ472 4.7KOHM 5% 1/8 MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ000 0OHM 5% 1/8W 2 MCR10EZHJ472 4.7KOHM 5% 1/8 MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ102 1KOHM 5% 1/8W MCR10EZHJ472 4.7KOHM 5% 1/8 MCR10EZHJ472 4.7KOHM 5% 1/8 MCR10EZHJ472 4.7KOHM 5% 1/8 MCR10EZHJ103 10KOHM 5% 1/8W	

DATE: 2006. 10. 09.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
SIDE BOARD				
		C100	0CH4101K416	C2012C0G1H101JT 100pF 5% 50
		C101	0CH4101K416	C2012C0G1H101JT 100pF 5% 50
		R105	0RH0000D622	MCR10EZHJ000 0OHM 5% 1/8W 2
		R106	0RH4700D622	MCR10EZHJ471 470OHM 5% 1/8W
		R107	0RH0000D622	MCR10EZHJ000 0OHM 5% 1/8W 2
		R108	0RH4700D622	MCR10EZHJ471 470OHM 5% 1/8W
		R109	0RH0000D622	MCR10EZHJ000 0OHM 5% 1/8W 2
		R110	0RH0000D622	MCR10EZHJ000 0OHM 5% 1/8W 2
CONTROL BOARD				
		SW101	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW102	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW103	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW104	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW105	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW106	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW107	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		SW108	140-313B	KPT-1115AM 1C1P 12VDC 0.05A
		R101	0RH2702D622	MCR10EZHJ273 27KOHM 5% 1/8W
		R102	0RH2702D622	MCR10EZHJ273 27KOHM 5% 1/8W
		R103	0RH8201D622	MCR10EZHJ822 8.2KOHM 5% 1/8
		R104	0RH8201D622	MCR10EZHJ822 8.2KOHM 5% 1/8
		R105	0RH2401D622	MCR10EZHJ242 2.4KOHM 5% 1/8
		R106	0RH2401D622	MCR10EZHJ242 2.4KOHM 5% 1/8
		R107	0RH9100D622	MCR10EZHJ911 910OHM 5% 1/8W
		R108	0RH9100D622	MCR10EZHJ911 910OHM 5% 1/8W
		ZD101	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD102	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80

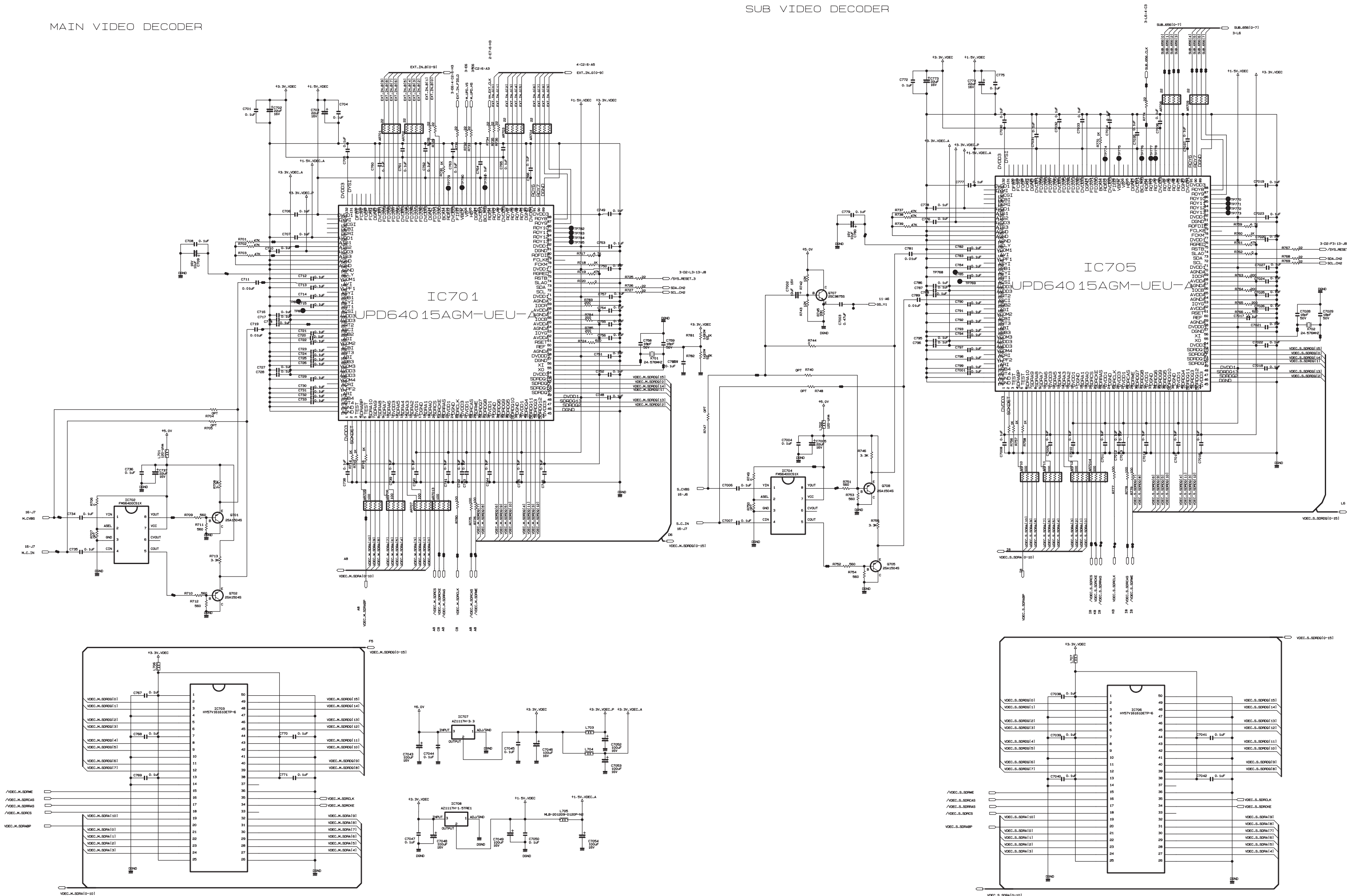




THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION, FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

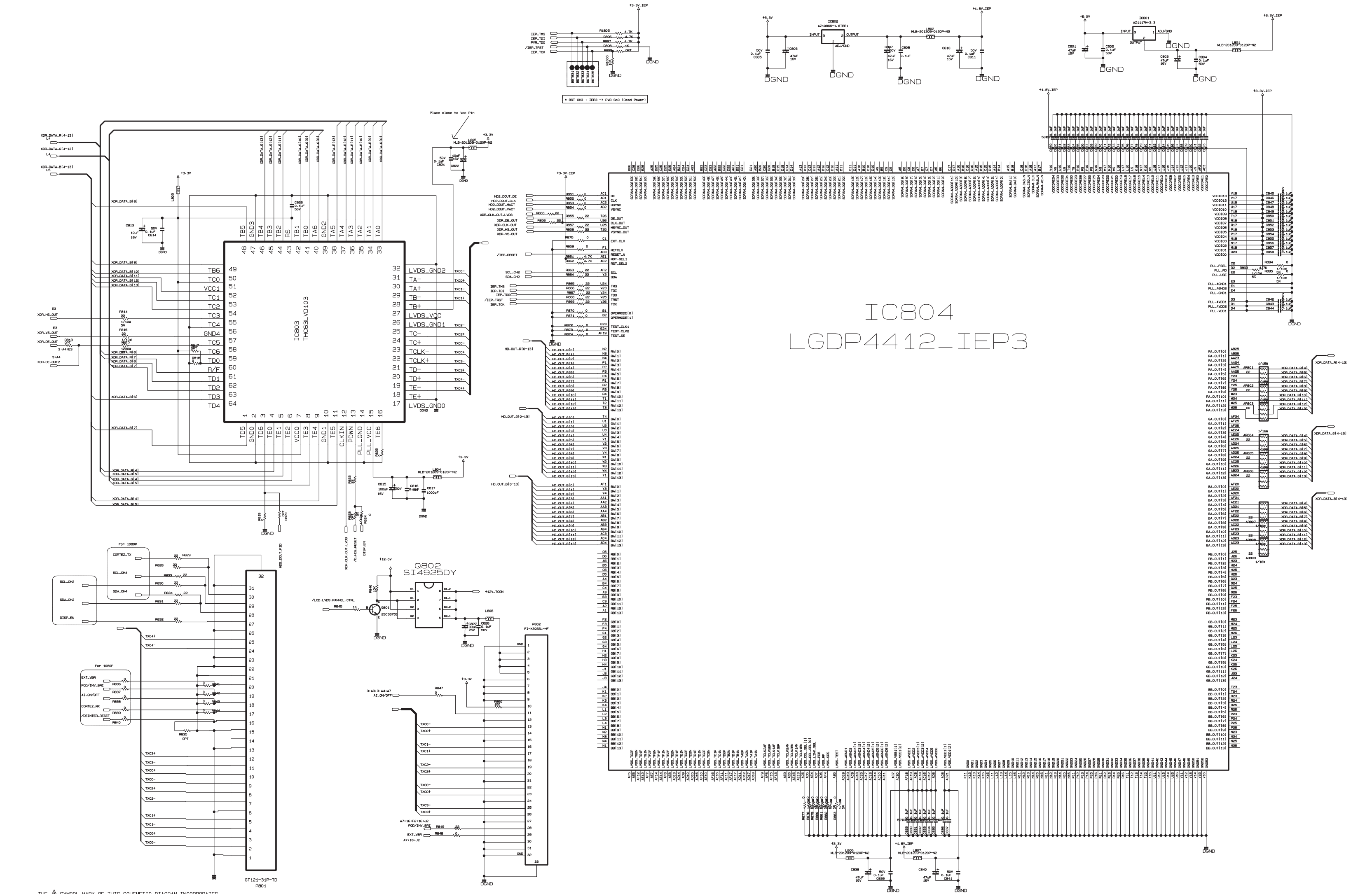
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION, FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

MAIN VIDEO DECODER



THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION, FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

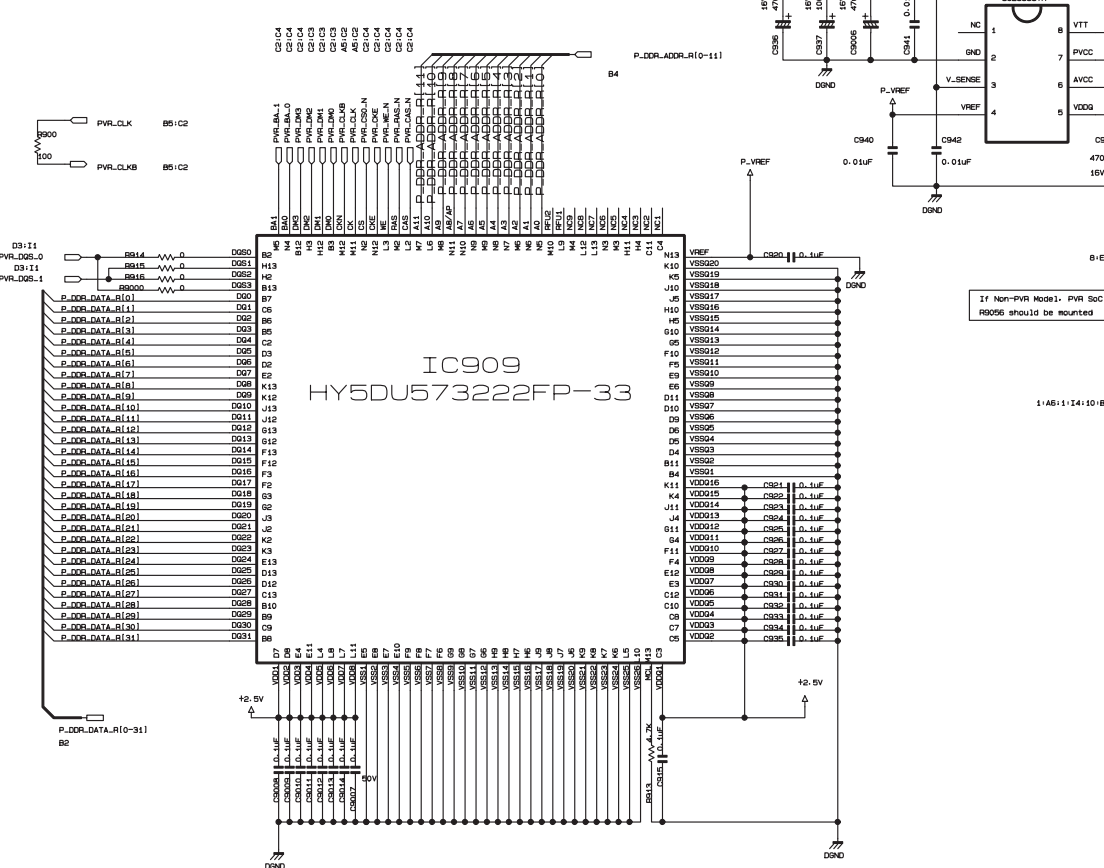
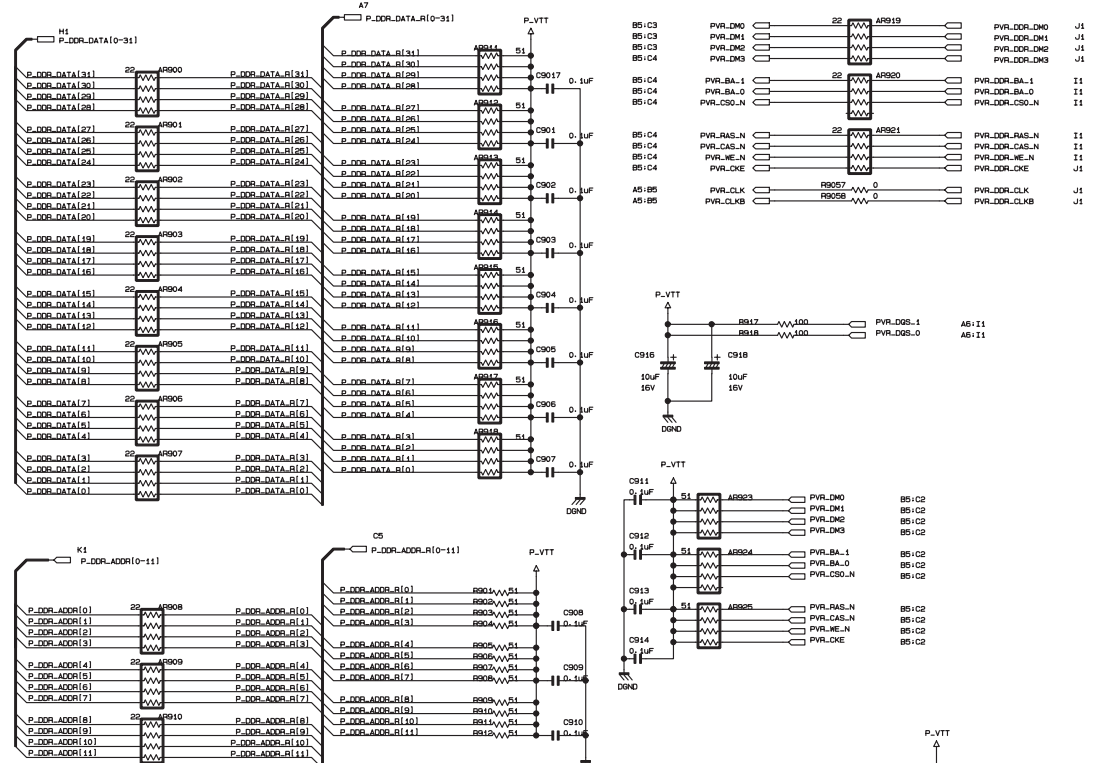
SUB VIDEO DECODER



THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION, FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

IOSEL : PAD[19]
INT : IRQ4
GNT : GNT-1
REQ : REQ-1

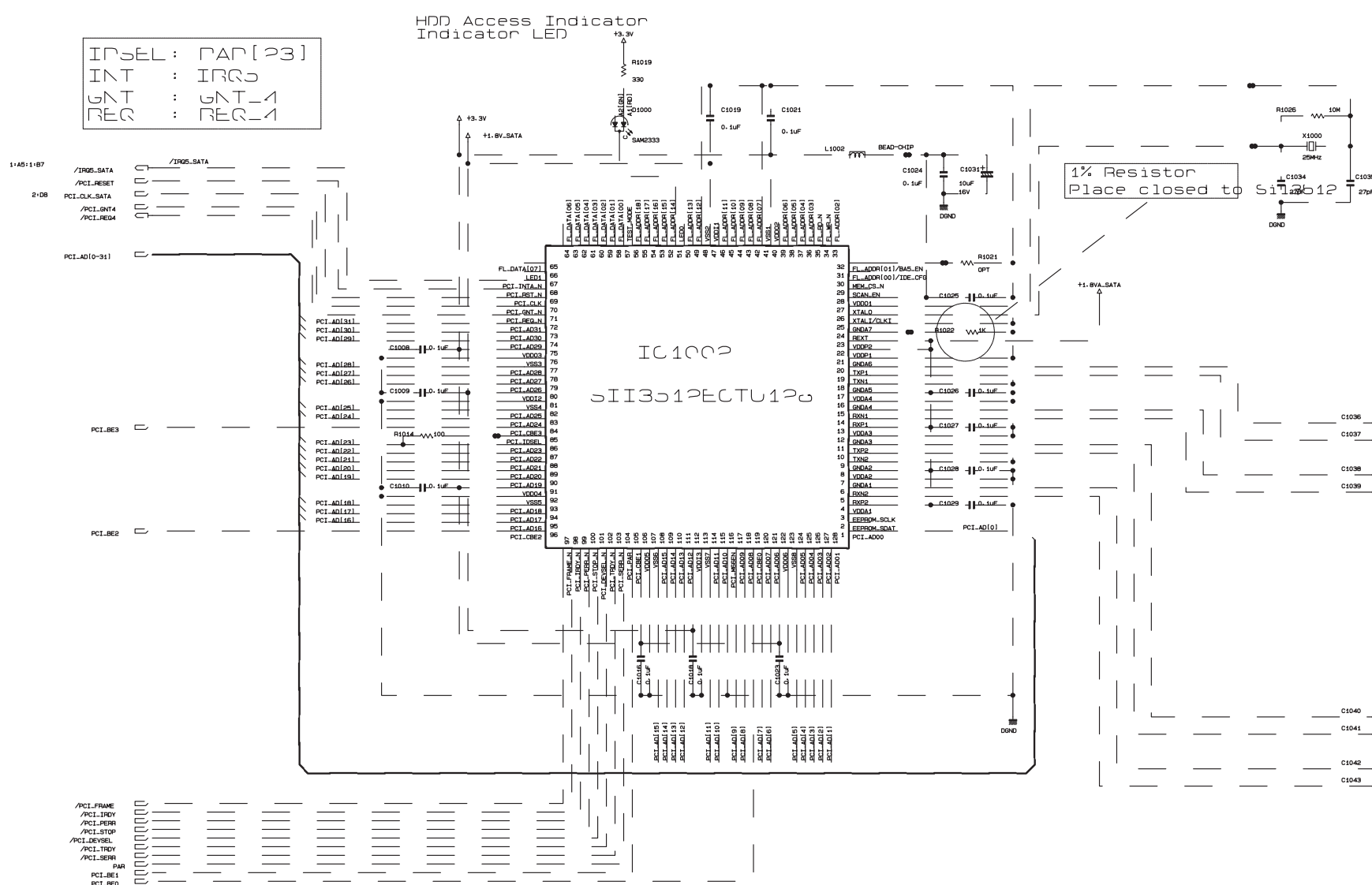
FOR PVR ONLY



THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION FLUX AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE OPTICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.

IC908
LGDT1304P

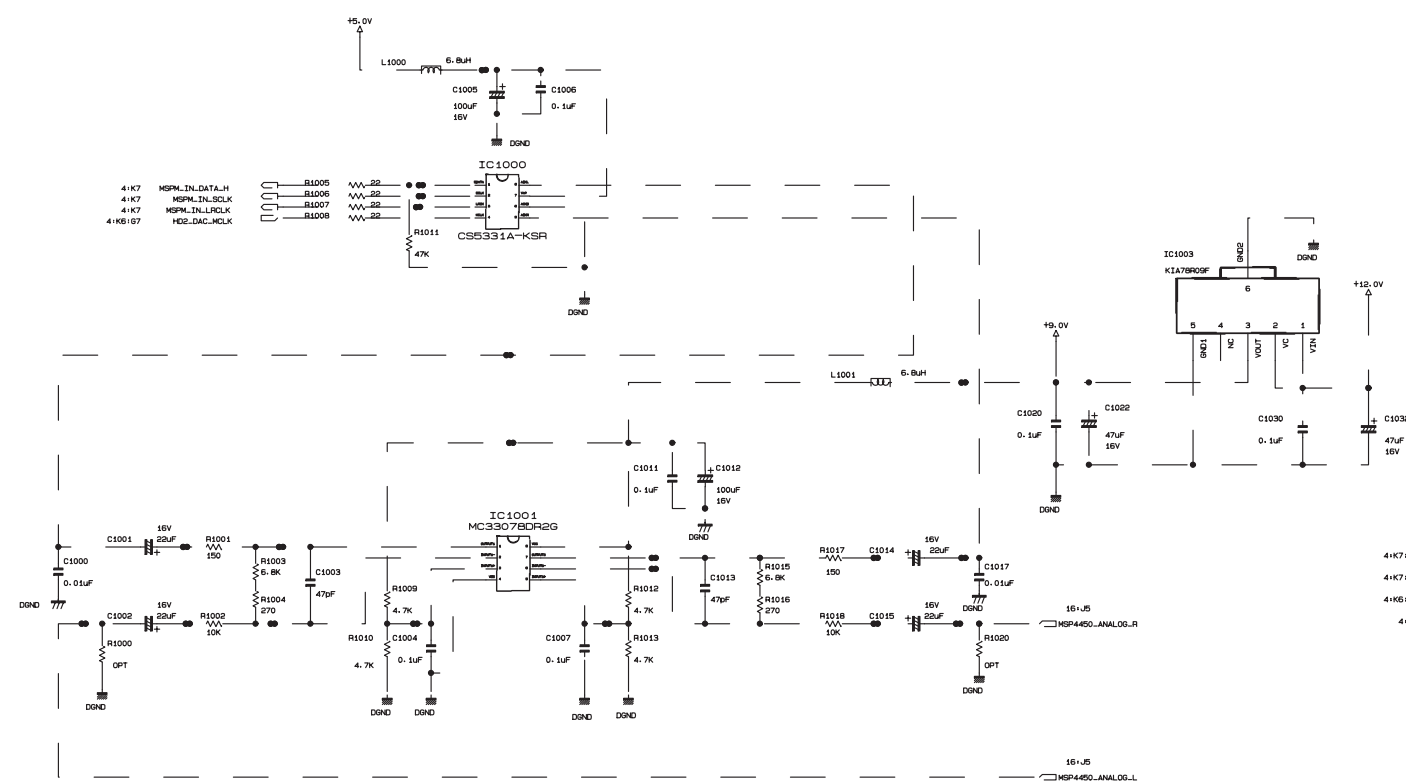
IOSEL : PAD[93]
INT : IRQ3
GNT : GNT-1
REQ : REQ-1



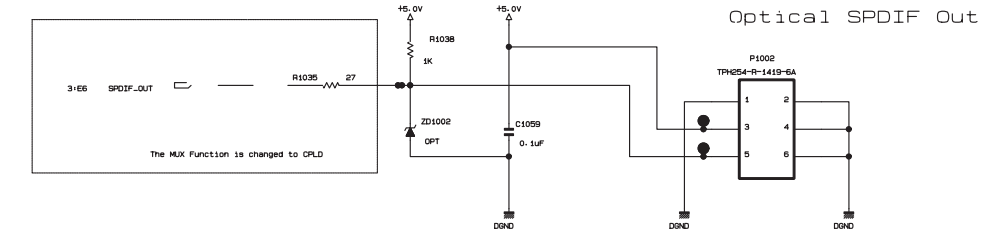
FOR HDD

1.4V Regulator for SATA

FOR EPF



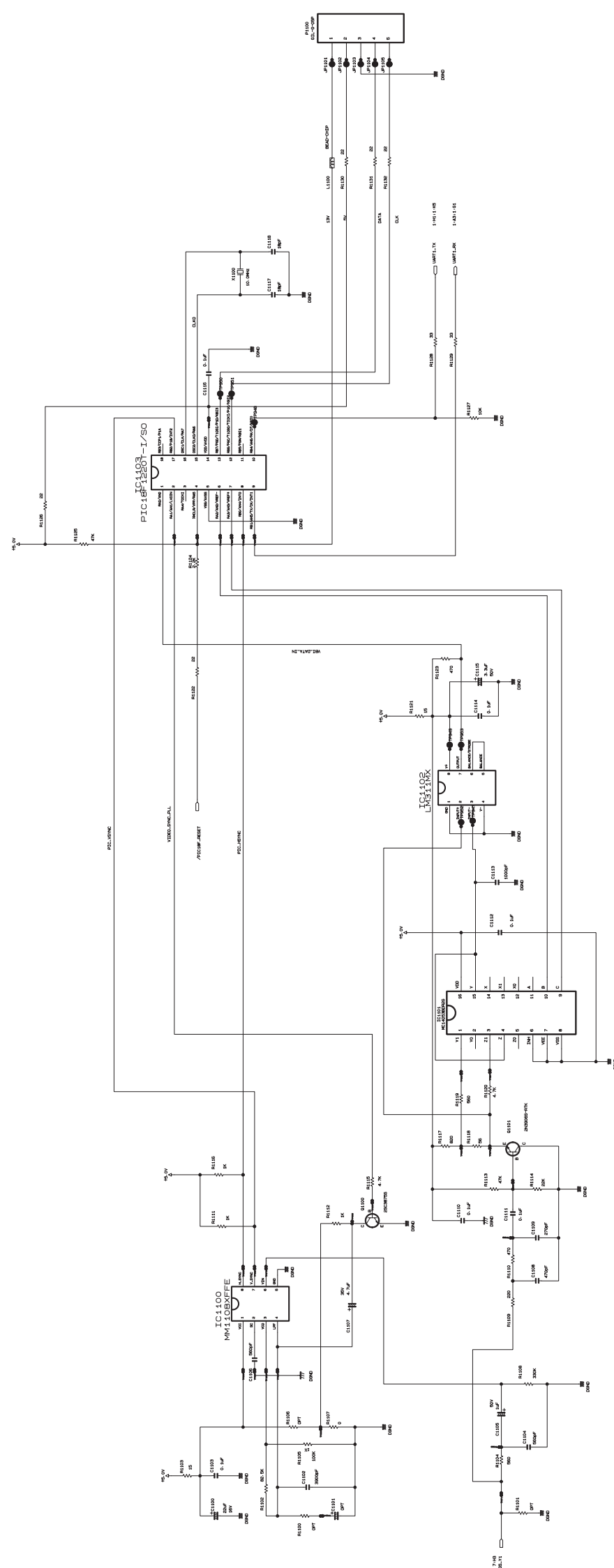
3-to-5 Buffer



Optical SPOIF Out

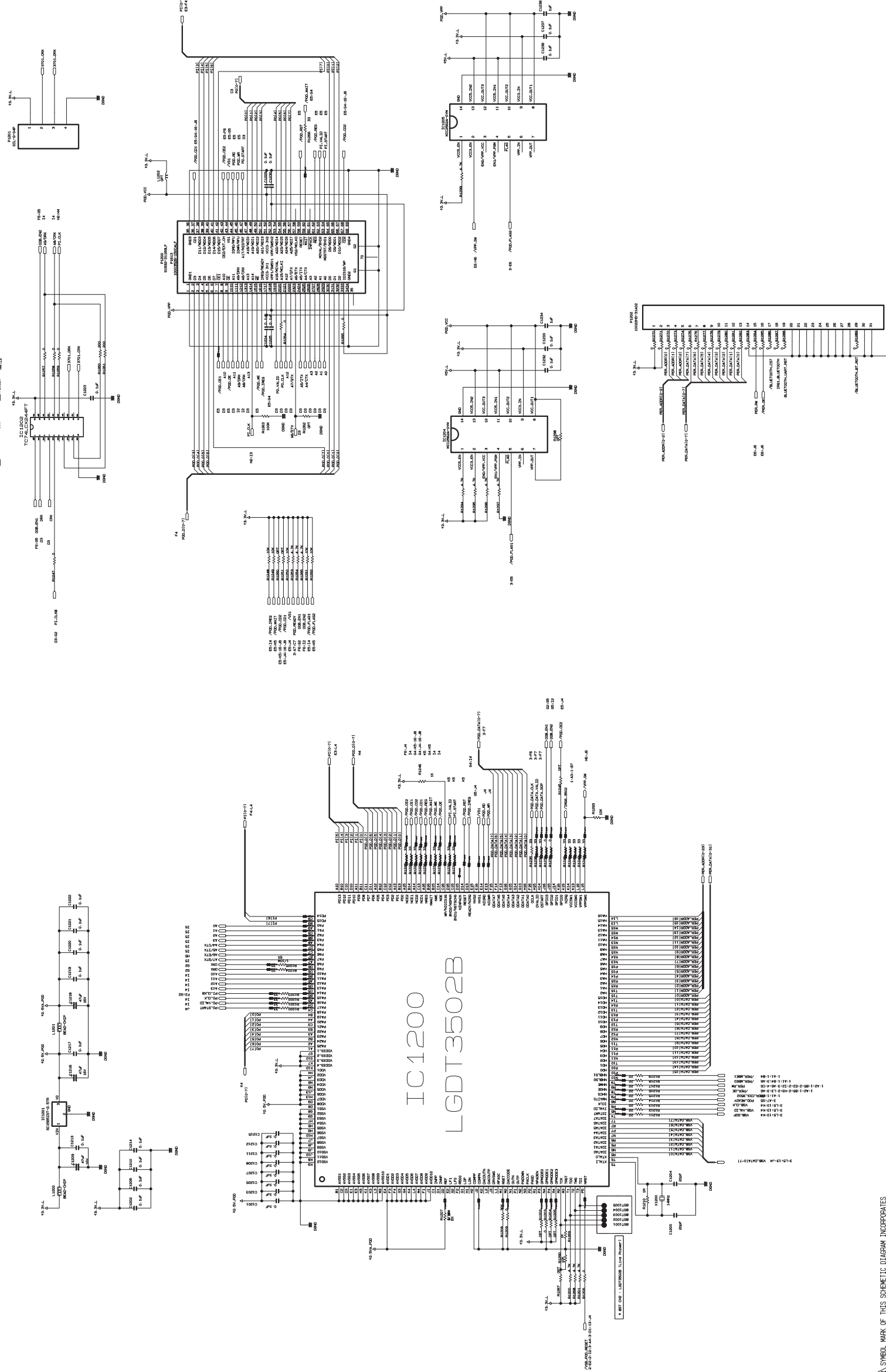
THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION FLUX AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE OPTICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.

For USA Only



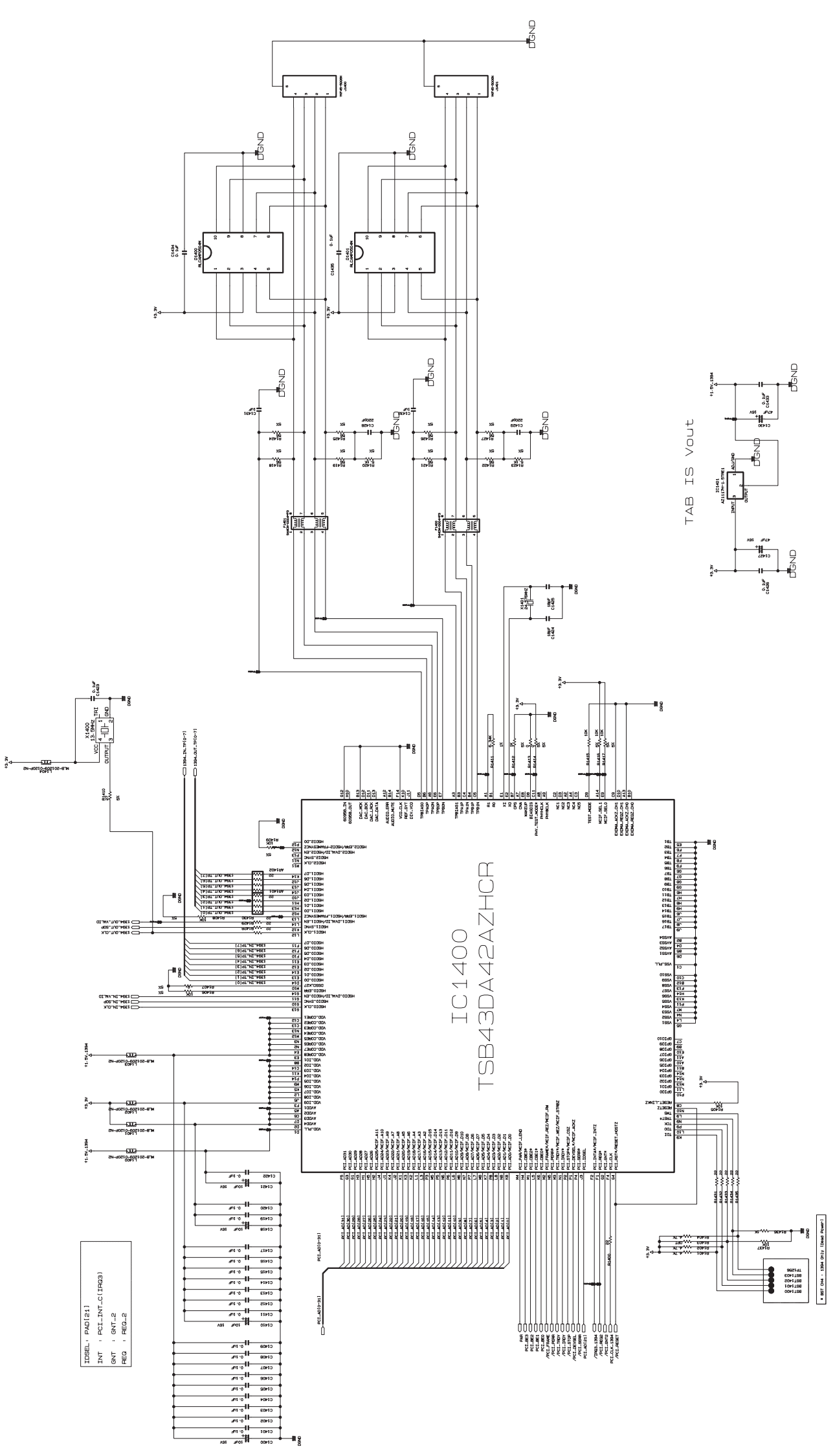
THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION FLUX AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE OPTICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.

For USA Only

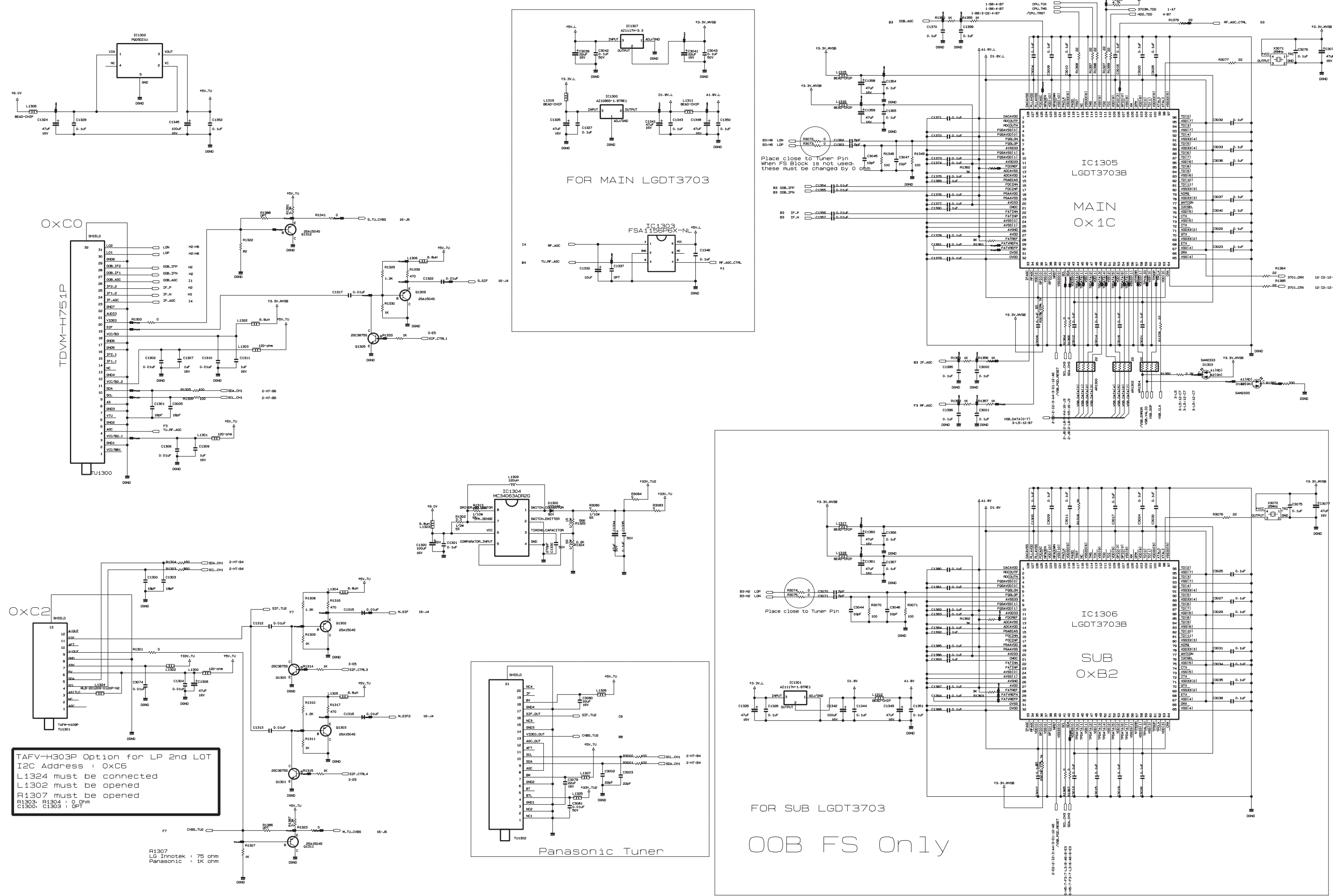


THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM RADIATION FLUX AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE OPTICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.

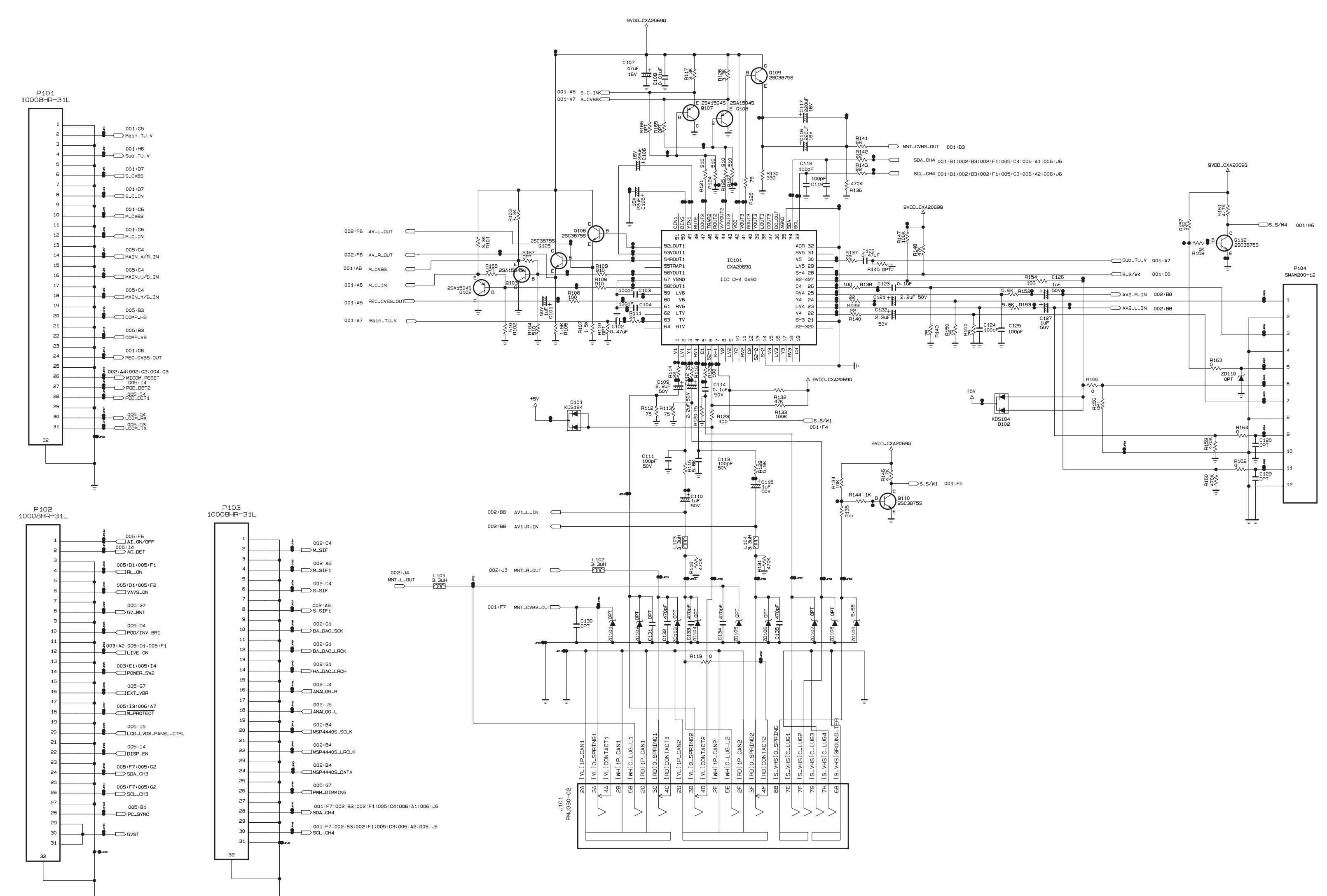
For Korea Only



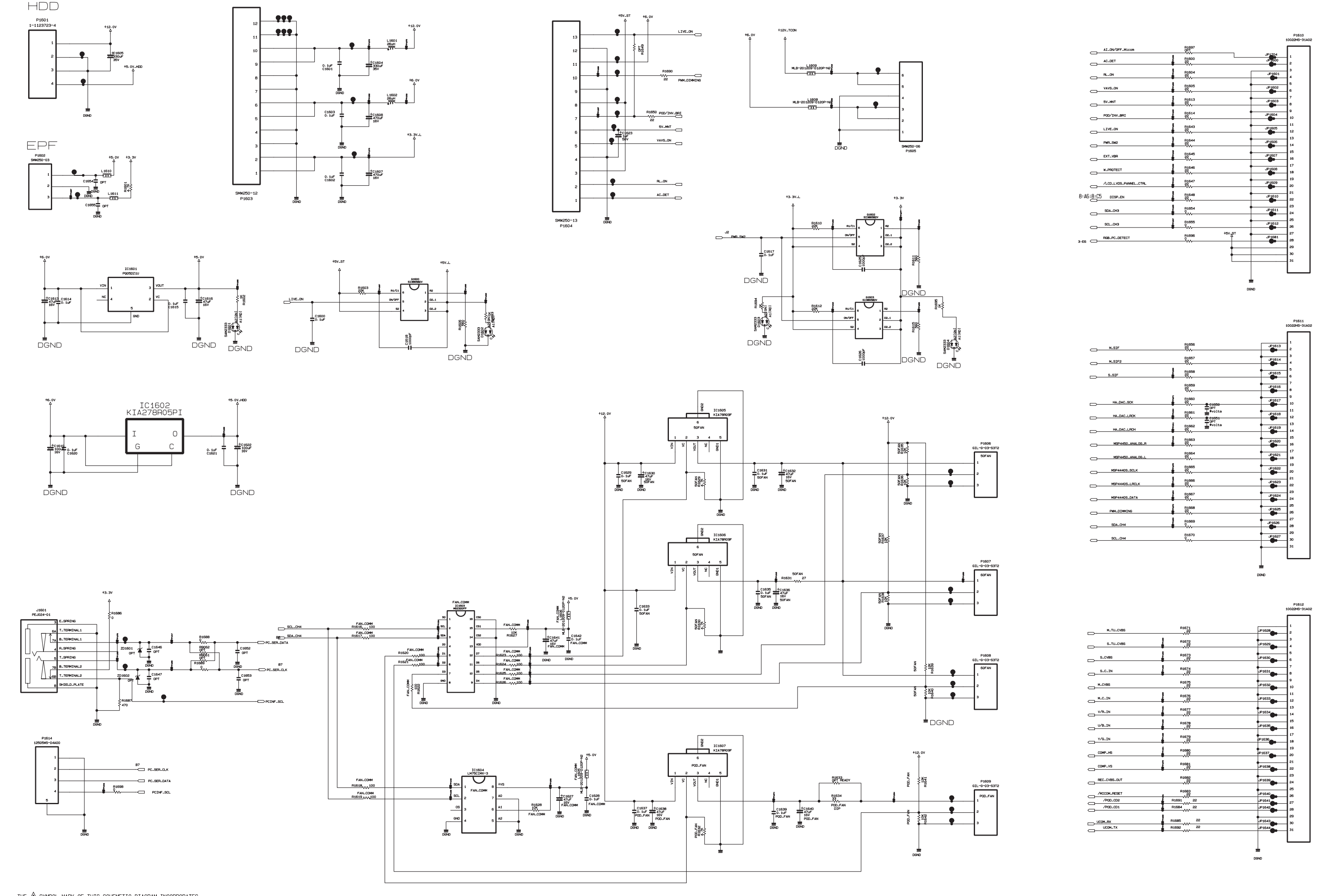
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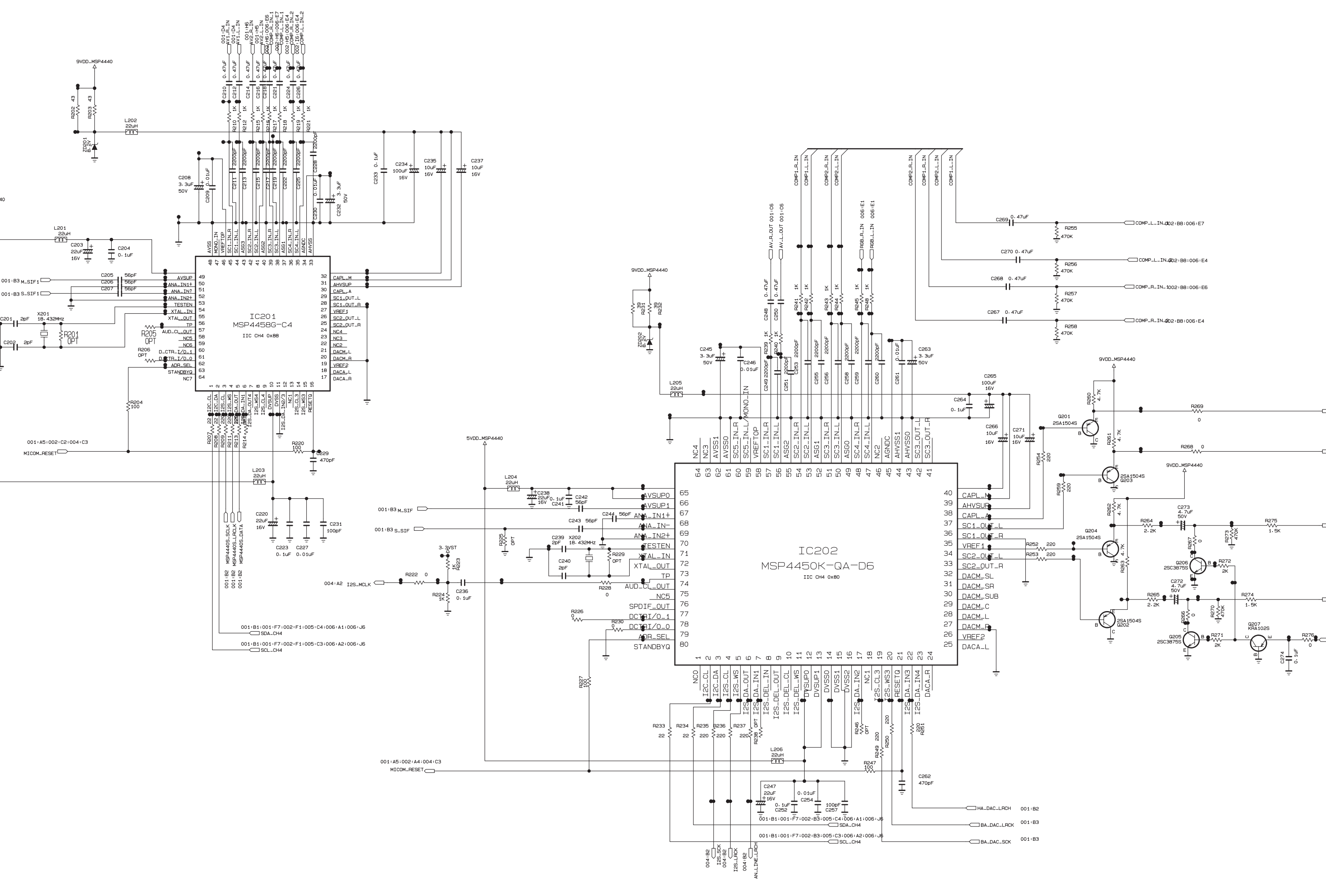
THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURERS SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.



THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURERS SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.

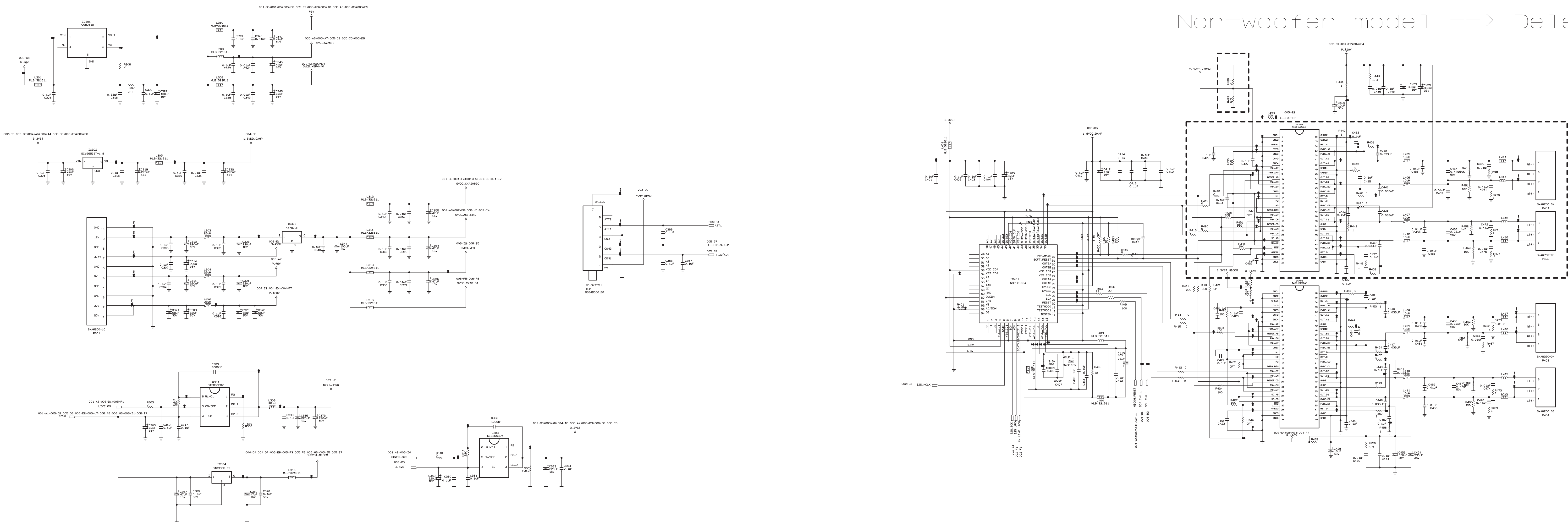




THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILURE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURERS SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.





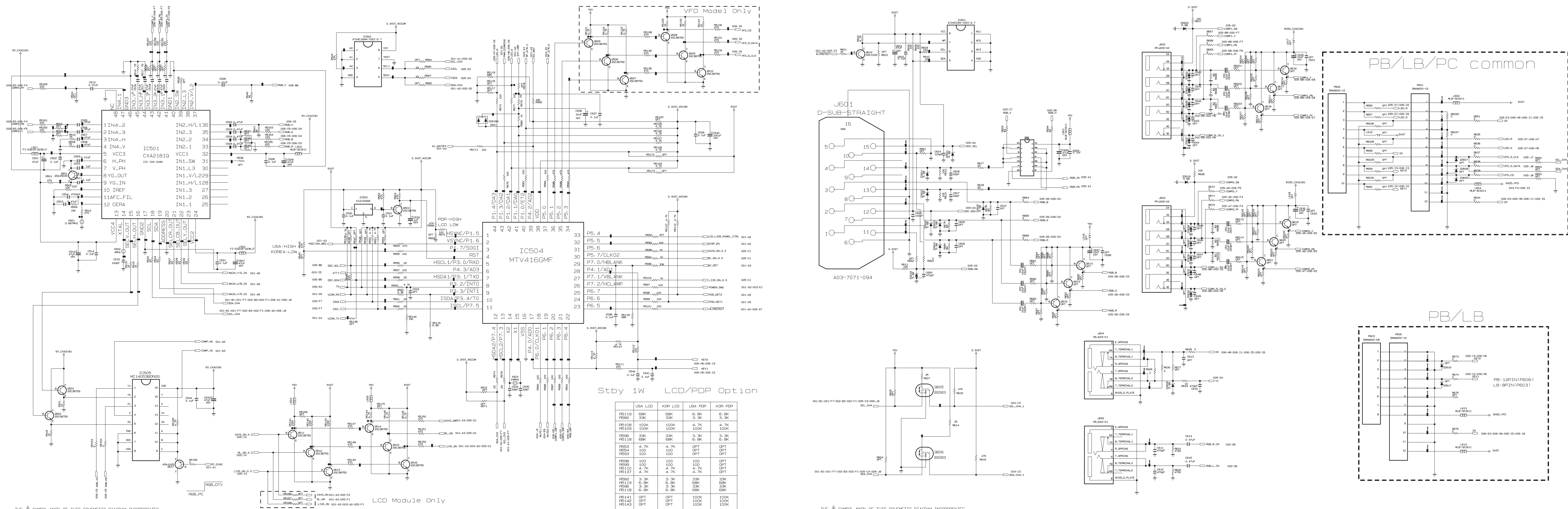
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Non-woofer model --> Delete





THE  SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE  SYMBOL MARK OF THE SCHEMATIC.

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P/NO : MFL30105552

Oct, 2006
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